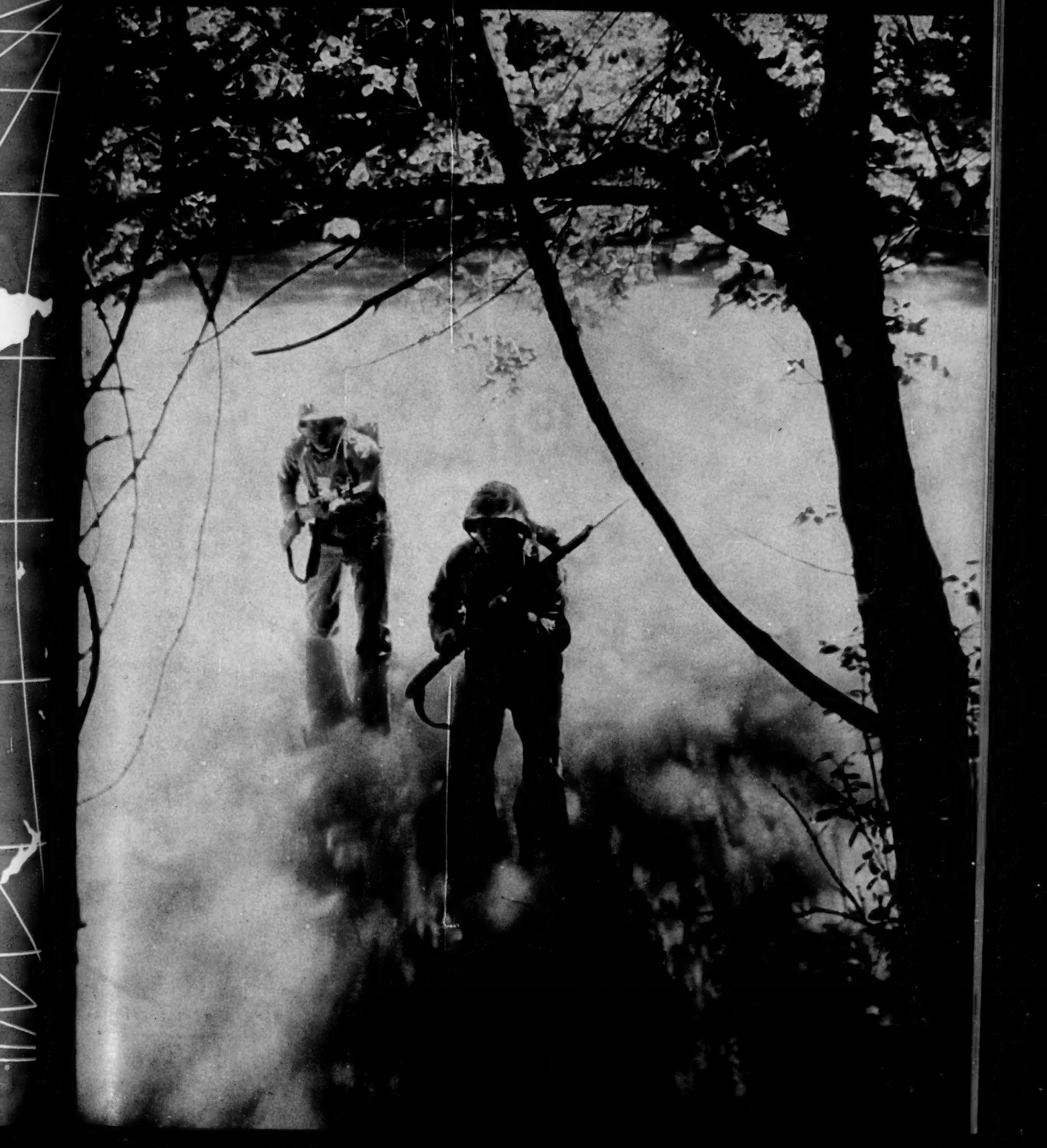
Marine Corps Gazette

APRIL 1956

FORTY CENTS



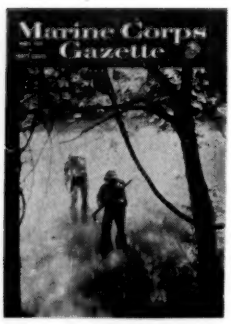
Marine Corps Gazette

APRIL 1956
NUMBER 4
VOLUME 40

PROFESSIONAL MAGAZINE FOR UNITED STATES MARINES

IN THIS ISSUE

. . . By Character and Skill — *Mr. M. L. Bressoud, Jr.* — 14
Guided Missiles — *Maj C. R. LaPlant* — 20
Meet Mr. Engineer — *CWO W. D. Smith* — 26
MWSG — *Col R. R. Yeaman* — 28
No Place for Weaklings — *LtCol R. E. Carey* — 36
Remember the 75s! — *MSgt W. L. Vick* — 40
More Punch for the 60mm — *TSgt J. P. Driver* — 43
Evolution of Japanese Landing Operations — *Dr. Louis Morton* — 44
The Bayonet — *LtCol R. L. Rankin* — 54
Message Center — 2
In Brief — 35
Introducing — 12
The Observation Post — 57
Passing in Review — 60



COVER

At this stage of training the two neophyte Marine officers shown on our cover probably agreed with the thesis LtCol R. E. Carey propounds on page 36 — the Marine Corps is *No Place for Weaklings*. In fact, it behooves all of us to keep at top physical condition *all* the time — not just work at it in season, or for one afternoon a week. Stay ready to go to the field at the drop of a hat and set the pace. Your waistline could be your lifeline.

PUBLISHED BY THE MARINE CORPS ASSOCIATION

Membership in the Association is open to all members and honorably discharged former members of the Armed Forces of the US. Dues in the Association are $4.00 per year and members receive the journal of the Association The Marine Corps Gazette monthly. The Marine Corps Gazette, copyright 1956 by the Marine Corps Association, Marine Corps Schools, Quantico, Va. is entered as second-class mail, privileges authorized at Quantico, Va., and Baltimore, Md. Editorial, Business offices: Marine Corps Schools, Quantico, Va. Editorial telephone—4780; Business and Bookshop—5750. Subscription rate, $4.00 per year; single copy 40 cents. Articles, photographs, book reviews and letters of professional interest are invited. If accepted, these are paid for at prevailing space rates. It is requested manuscripts for articles be submitted in triplicate, double spaced, with ample margins. Material may not be reproduced without permission. Picture credits: all pictures official Department of Defense photos unless otherwise credited.

Editor-in-Chief
Col L. C. Hudson

Editorial Board
BrigGen D. M. Weller, Col S. P. Shaw, Col N. J. Anderson, Col J. D. Hittle, LtCol J. F. Wagner, Jr, LtCol J. R. Stone, Capt C. V. Judge

Editor and Publisher
Maj David M. Cox

Managing Editor
Capt H. W. Henzel

Business Manager
Capt R. A. Haydock

Associate Editor
CWO Fred T. Stolley

Secretary
MSgt Annette Parziale

Editorial Assistant
TSgt B. M. Rosoff

Art Staff
TSgt D. W. Kiser, TSgt S. E. Dunlap, Jr, SSgt G. G. Johnson

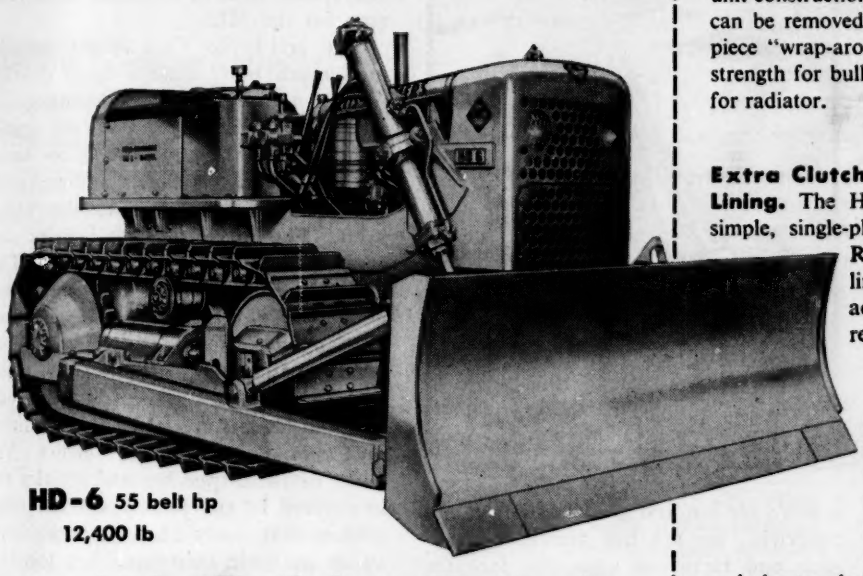
Business Staff
SSgt M. Lehrer, SSgt J. R. Goodman, Jr, Pfc B. I. Silverman, Mr. N. Miller

Circulation Staff
Sgt J. K. McCormack, Sgt R. A. Sambroak, Cpl J. J. Cetinski, Cpl R. F. Price, Cpl R. L. Stanner, Pfc J. T. Trocki, Pfc P. H. Patton, Pfc S. E. Smith

Advertising Representative
Shannon & Associates, Inc.
New York — 28 West 44th Street
Chicago, Atlanta, Cleveland, Detroit, St. Louis, Kansas City, Minneapolis, Los Angeles and San Francisco

Opinions expressed in the Gazette do not necessarily reflect the attitude of the Navy Department nor of Headquarters, United States Marine Corps

This kind of Crawler Tractor Design is just right for Military Service



HD-6 55 belt hp
12,400 lb

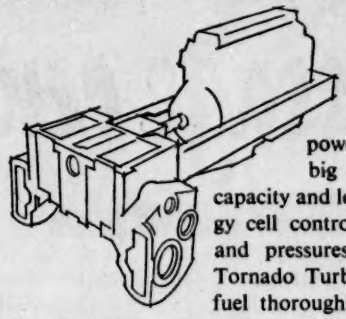
. . . and only Allis-Chalmers HD-6 has it—

advanced design features that combine big performance, versatility, dependability and simplified servicing!

Look at the Allis-Chalmers HD-6—you can see its functional design . . . how it's built to give sure-footed traction, better working balance. But there's more to this crawler tractor than meets the eye—the performance advantages of Allis-Chalmers advanced basic design. It provides more working power, more strength in all components, more working weight where it's needed . . . makes the HD-6 an outstanding performer with drawn or mounted equipment . . . easier to operate and maintain.

Write for details and specifications on the HD-6. Also ask about the three new, larger sizes of Allis-Chalmers tractors. Like the HD-6, their new standards of dependability make them ideal for military use where dependability means so much.

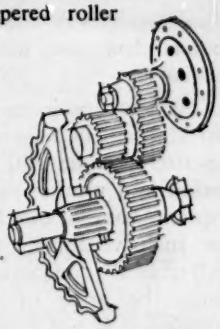
ALLIS-CHALMERS, CONSTRUCTION MACHINERY DIVISION
MILWAUKEE 1, WISCONSIN



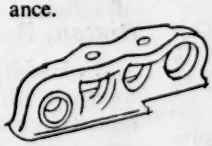
Allis-Chalmers Heavy-Duty Diesel Engine. The HD-6 power plant is designed for big output, ample reserve capacity and low maintenance. Energy cell controls combustion timing and pressures for high efficiency. Tornado Turbulence mixes air and fuel thoroughly for more complete burning. Follow-Through combustion sustains effective working pressures to take advantage of better crankshaft leverage.

Special Strength and Protection. Exclusive all-steel box-A main frame makes possible superior over-all balance, better equipment mounting . . . plus service simplicity of unit construction. Major assemblies like engine and clutch can be removed without disturbing adjacent parts. One-piece "wrap-around" radiator guard provides maximum strength for bulldozer mounting . . . complete protection for radiator.

Extra Clutch Life—with Ceramic Lining. The HD-6 master clutch offers simple, single-plate, over-center design. Revolutionary new ceramic button clutch lining keeps clutch operating longer between adjustments . . . lengthens clutch life . . . reduces lever pull for easier operation.



Straddle-Mounted Final Drive Gears. Tapered roller bearings support both ends of the final drive gear shafts. Smaller gears and shorter shafts (plus line-bored, one-piece case), provide better bearing and gear alignment, more strength, longer life. Double-reduction final drives provide greater ground clearance.



New-Design, Heavy-Duty Track. HD-6 track provides long life under the toughest conditions. HD-6 sidebars have more steel where it's needed . . . benefit from new heat-treating methods which make possible new standards of strength and hardness throughout for extra wearability.

Other Outstanding HD-6 Features

. . . no other tractor in this size class has them—at no extra cost you get roller bearing truck wheels, idlers and support rollers; 1,000-hour lubrication intervals for truck wheels, idlers and support rollers; 24-volt direct electric starting; crankcase guard; bumper; and lights.

ALLIS-CHALMERS

message center

Mahomet and the Mountain

. . . Col Cushman's article in the February issue *A Reorientation* is timely and thought-provoking. Apparently, complete study of, and *action* on the problem is long overdue.

Map and planning problems conducted in schools and the few officers on European staffs do not supply the remedy. The present system does not even provide a complete theory or concept of possible European operations, for one practical reason — not enough people have gone over the ground. How else can they see, understand, feel and appreciate all possible aspects of the situations most likely to be encountered? How can they really orient their thinking, planning and preparation along realistic lines of reasoning?

We are all agreed that there is no substitute for a physical reconnaissance, study and evaluation of an area of operations *prior* to the commencement of such operations. Only then are the commander, his staff and subordinate commanders *ready* to set forth on their mission.

Our new atomic era concepts envisage fast and widely dispersed operations on a scattered front, still requiring co-ordination and mutual support. As a consequence, one of our basic prerequisites for such ventures consists of strong, well-trained commanders and staffs who *know* the areas of operations. This knowledge is not confined to a familiarity with the terrain; we must know everything on it. We must know the people. *Know your Enemy* is wise counsel; just as wise is the necessity for knowing and understanding our allies — those on the right, left and to the rear. We must know the people, their land and modus operandi, militarily and otherwise.

We cannot learn enough about the mountain in the classroom. There is only one answer: send Mohamet to the Mountain. During planning courses, let us send our students east of the Atlantic. Let them get the feel of the various areas under consideration. They can then return to the classroom enlightened to the degree where they can set forth complete plans wherein each paragraph, including assumptions, can be based on the actualities of the problems under consideration.

A knowledge of the structure and functioning of the European forces is unquestionably important, but we should know the people, their land, past and current history, and a working knowledge of their languages.

Let's get out and go over the ground; otherwise, we are but armchair strategists and tacticians who may face the danger of being reduced to Monday-morning quarterbacks.

MAJ MARSHALL SALVAGGIO
ComCBLant

Button, Button

. . . I wish to nominate as the understatement of the year 1955 Capt Curtis' remark in his recent article on uniforms (Dec issue); i.e., *Shirts, satisfactory. No comment.*

The authorized shirt, khaki (officers), as described in the Manual, now has an additional button on each sleeve to close the sleeve placket. This button is of little use to the wearer since sleeves are normally not rolled up. The only group of people who profit by the addition of this button is that well-trained corps of *button smashers* on the staff of almost every laundry facility. Their supply of ammunition has increased 100 per cent.

My recommendation? Go back to one button on each sleeve!

CAPT D. A. SILVA
Oak Harbor, Wash.

Digests

. . . The December issue of the GAZETTE was outstanding.

Major Kern's article on the *multi-MOS* threat to the basic Marine concept of unrestricted command potentiality *(forward, men. I'm a PhD!)* is clearly written and certainly apropos of a current problem. The comments of Maj Kern on the need for the additional MOS in the cases of some officers are particularly significant in the light of modern weapons and weapons systems progress. The officer eligible for unrestricted command may well find himself in command of a combination of men and machines which will require all the elements of leadership *plus* the *same* understanding of a complex weapons system that is expected of a rifleman for the M1.

The article by Gen Megee contributed much more than a lucid description of the Marine Corps' concept of tactical air support. It gives the reader a rare opportunity to observe the opinions of a senior Marine commander on a doctrine fundamental to the Corps itself. The rarity of such articles suggests an addition to the GAZETTE. The basic idea is to present expressed opinions of the top military officers and civilian officials on matters of direct professional interest to Marines. Current speeches and articles by these officers and leaders are frequently of direct professional interest to Marines. Yet many of these speeches and articles are so covered by the press and other news sources that many Marines aren't even aware of their existence. Let the GAZETTE's editorial staff digest pertinent speeches, interviews, comments and articles by these officers and officials. Such digests can be presented monthly as part of *In Brief* or as a separate feature.

MAJ R. L. PARNELL, JR.
Princeton, NJ

New Home for the "Beaver"

. . . With the adoption of the new Marine officers' topcoat and the resulting obsolescence of the Marine officers' overcoat, it appears feasible that an official USMC effort be made on the disposal of the latter to accomplish the following:

a) To provide a means for overcoat owners to volunteer a white elephant to a worthy cause. b) To increase the prestige of the Corps in community and/or international affairs. (c) To assure that this article of uniform is adequately modified, and reaches a group or groups of needy people in sufficient numbers to appreciate a reduction of hardship.

I'd gladly donate mine.

COL P. R. COLMER
Washington, DC

"PEOPLE are the Greatest Invention Yet"

Visitor to Telephone Company exhibit says: "The man of the house came out with a new reverence for engineering. I came out with a new reverence for people."

INTERESTED VISITORS—Pat Haan, a telephone accounting clerk, explains billing machine to Mrs. Beebe and her husband. "I was so impressed with everything I saw," says Mrs. Beebe, "that I went right home and wrote a piece for our local newspaper." It's so human and friendly that we are reprinting it here.

"We went to the Telephone Company's Open House," writes Evadne Scott Beebe in the Zion-Benton News, "and saw the electronic brain playing tick-tack-toe.

"My husband was enthralled with the performance but I was watching the deft, well-groomed hands of the woman displaying the machine. She wore a wedding ring and I wondered about her home and family.

"After we listened to her little speech we went to a man in a brown business suit who told us how telephone bills are made out. Then a clear-eyed young woman operated the machine for us. To be sure, it was an amazing gimmick, but not nearly so attractive as the girl who handled it so well.

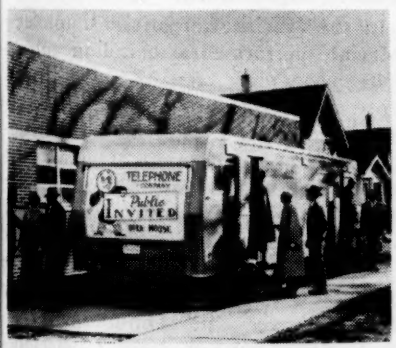
"Outside we stopped by a truck with an 'earth auger' and other modern attachments. Explaining their uses was a big, jovial lineman.

"While we listened to an account of how fast the auger could dig a hole, I was looking at the man and thinking that here was the typical lineman, strong, alert, capable and kindly, a person who, in times of disaster, becomes a kind of unsung hero.

"My husband said, 'This is what I want to see,' as we went into the equipment building. Here we saw switches and relays, ringing machines, countless colored wires in patterns like quilt blocks, and listened to technical explanations.

"That is, my husband listened. I watched the men as they talked so intelligently and wondered where they live, who cooks their meals and irons their shirts, what their problems are, and if they were ever in love."

EVADNE SCOTT BEEBE,
Zion-Benton (Ill.) News



MANY OTHER EXHIBITS. In addition to Open Houses at telephone companies, there are many other occasions and places where the story of the telephone is brought to you. These include fairs, lectures, moving pictures and traveling exhibits. Everyone is welcome. Bring the children, too.

There is, indeed, a lot of wonderful equipment in telephone service. But it takes more than 740,000 Bell System men and women to bring it into being and make it work. And because more people are making more use of their telephones, the number of employees is growing all the time.

"People," as Mrs. Beebe points out, "are the greatest invention yet" in the telephone business.

BELL TELEPHONE SYSTEM

CHANGE OF ADDRESS

Please notify the Gazette immediately when your address is changed. Each change must include both your old and new address.

NEW ADDRESS:

NAME & RANK (PRINT)

ADDRESS

OLD ADDRESS:

ADDRESS (PRINT)

IF you subscribed at recruit depot, also list your home address:

ADDRESS (PRINT)

MAIL TO: MARINE CORPS GAZETTE
MCS, QUANTICO, VA.

Easy Mark?

. . . No fitness report form in use within the past 15 years in the Marine Corps has lessened the tendency of marking seniors to rate subordinates generally higher than average. Consequently officer (and noncommissioned officer) selection boards frequently have no firm basis for determining which, of a number of excellently rated personnel, are indeed the best and should be promoted. Directly related to this situation is the absence of a system (other than personal knowledge by a selection board member) for rating the rater. Accordingly, it would be of considerable value to a selection board to know first, whether a particular marking senior is an easy marker or hard marker, and secondly, how the marking senior rates a particular officer in relation to his contemporaries.

When preparing semiannual fitness reports, or those required on detachment of the reporting senior, many markers tend to compare officers of the same rank actually present when assigning marks. This mental comparison never appears on fitness reports, and yet it indicates the rater's honest evaluation of an individual. Additionally, the number of *excellents* or *averages* assigned various officers by a marking senior offers a scale for rating the rater.

To take advantage of this condition, why not modify the fitness report form by adding subparagraphs 15C and 15D as follows to be filled in by the reporting senior:

15c. How many officers of the same rank are being marked by you at this time? _____.

15d. Of these, to how many did you assign an over-all value to the service of Outstanding _____ Excellent _____ Above Average _____ Average _____ Below Average _____ Unsatisfactory _____.

With this information, a selection board has a basis for rating the rater, and a better picture of the rater's true evaluation of an officer. Not so apparent, but implicit in this recommended change is the gentle prod to the marking senior to evaluate his subordinates objectively. While chance infrequently may present a commander with 20 lieutenants, the least of whom is an excellent officer, honest reflection may yet establish average as the average marking for most Marine officers. We forget that average for a Marine is indeed a high rating against contemporaries in other services.

LtCol A. Arsenault
FMFLant

The Big Difference

. . . I read with interest Maj J. J. Reber's article, *Communications: Our Semidilemma* in the December issue.

I am a Naval Gunfire Officer, assigned to a battalion. Prior to reporting to the Marine Corps, I was in the billet of Electronics Officer. I would like to point out a large difference in the Marine Corps' and the Navy's system of electronics maintenance. I believe it is the primary reason that maintenance is possibly better in your sister service. The difference is the assignment of areas of responsibility.

In the Marine Corps, the simple repairs are performed at battalion (often quite elementary repairs only) level. More complex repairs are performed at regiment, and if it can't be fixed there, it is sent up to division. One of the results seems to be less pride in the job (it isn't the technician's own equipment), and the passing of the *buck* on up to the next unit whenever a particularly hard service problem arises. This process is very time-consuming, and often does not produce satisfactory maintenance.

When a technician is graduated from school his training certainly is far from complete. He may soon forget much of what he knows if he does not have the proper supervision. This supervision must come primarily from the more ex-

Established 1918

A. M. Bolognese & Sons

TAILOR AND HABERDASHER, QUANTICO, VIRGINIA

CUSTOMER'S ORDER BLANK

Name _____

Address _____

_____

Articles Desired _____

Special Fitting Problems _____

Fill all blanks below:

Height _____ Pants Inseam _____ Seat _____ Cap _____

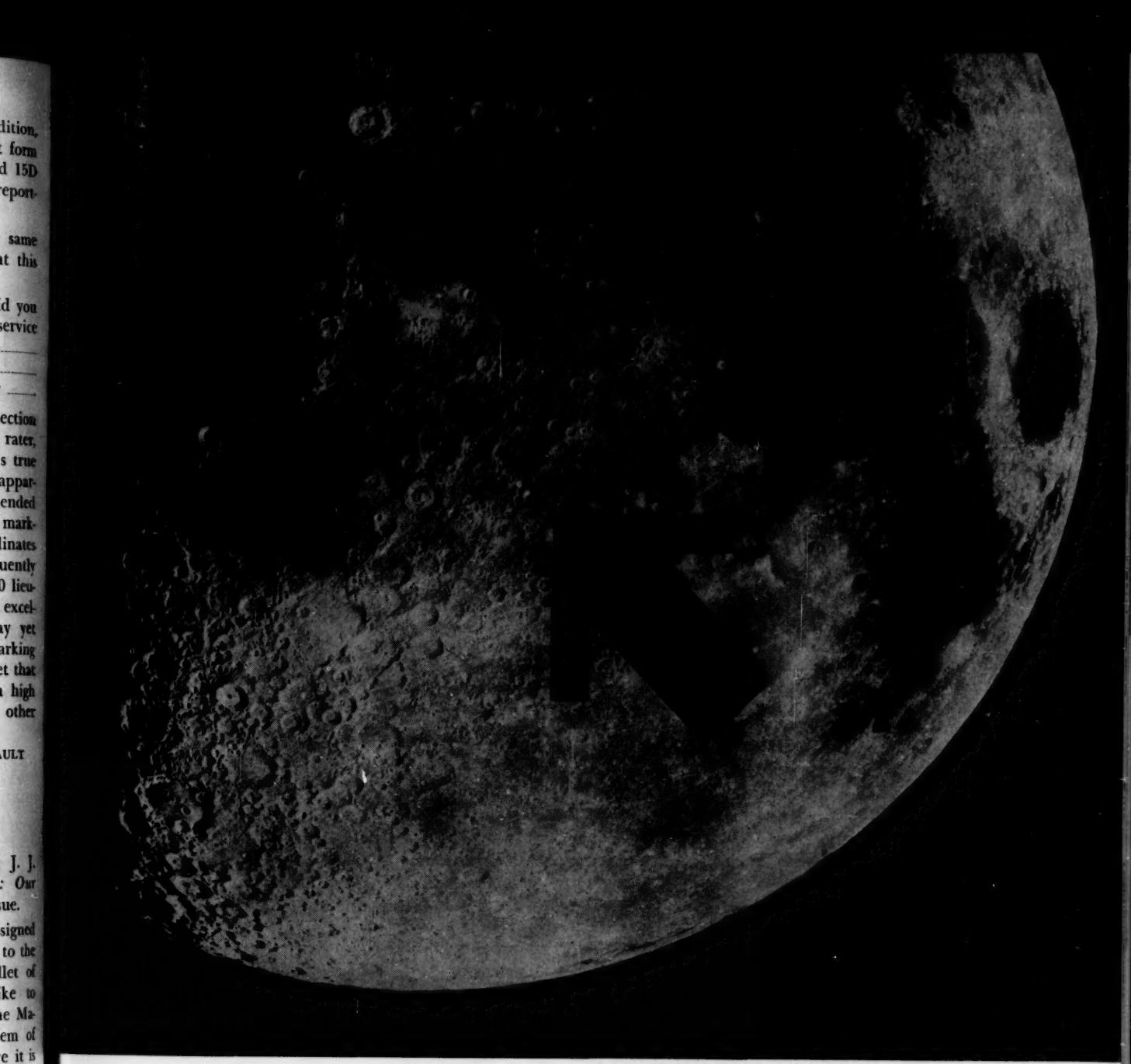
Weight _____ Neck _____ Sleeve _____ (outseam) Glove _____

Waist _____ Chest _____ Shoe _____

SPECIALIZING IN CIVILIAN & MILITARY EVENING CLOTHES COMPLETE WITH ACCESSORIES—INSIGNIA & ORNAMENTS OF ALL DESCRIPTIONS
LARGE MEDALS MOUNTED, IF FURNISHED

Order now your Summer Service uniforms for delivery in the spring:
Gabardine Blouse $55 Trousers $25 Shirts $9

Winter Service uniforms for immediate delivery:
Jacket & Pants $85 Coat & Pants $95 Topcoat $85
Campaign Hats: Officer $10 Enl. $7.50 (Add $2 for packing & Postage)
Engraved Swagger Sticks: Officer $10.95 NCO $6.95
Engraved Calling Cards with Plate: Officers $12 Wives $8
Approved Swords for immediate delivery—Complete $85



NEW FRONTIER

"If we had to put a man on the moon, we could do it."
—Overheard at an Institute of Aeronautical Sciences luncheon

This impromptu statement was not a matter of idle conjecture. It was a statement of a positive and scientific fact—as provable as if he'd said the Aleutian Islands—and contingent only upon three prime requisites: enough time, money, and necessity. And by "we" he meant today's mindpower and facilities operating under the most advanced concepts of research and development.

Those concepts as practiced at Martin today would be essential to the fastest possible solution of any complex flight systems problem now within the capacity of man to solve.

It is this that has established Martin as one of the prime forces in the coming conquest of the new frontier—Space itself.

MARTIN
BALTIMORE

perienced NCOs, and these NCO technicians are all at a higher echelon. Every technician should be able to repair any equipment under his care. Why send it on up the line? I believe that each unit should be responsible only for its own organic equipment. If this is not possible, because of lack of personnel, a division pool should be organized in garrison, and the operators farmed out in the field.

The naval system has no echelon concept. The results seem to be more efficient maintenance of more complicated equipment (radar, fire-control) with less man-hours and a higher level of training.

It doesn't seem to me that the Major's solution of training more technicians is the complete answer. I, for one, have seen no badly overworked Marine Corps electronic technicians.

LT (JG) CHARLES S. WEAVER, USNR
Camp Lejeune, NC

Mirror, Mirror on the Wall

. . . Regarding Capt Wilson's article in the February issue of the GAZETTE titled *Don't Expect — Inspect.*

A word of thanks for publishing it, and also a word of praise to Capt Wilson for writing the article. I agree that emphasis should be placed on more frequent and scrutinizing inspections throughout the Marine Corps.

As far as pride of uniform is concerned, I sincerely believe that *being sharp* is a way of life that can never be substituted satisfactorily in any other way. All officers and NCOs should take a look in the mirror. Does the reflection of yourself meet the standard you want your men to maintain? If so, keep it up; if not, GET HOT!

I am very happy to inform the Captain that the full length mirrors are in place in our barracks. Also, the men check out on liberty with the Corporal of the Guard. His orders make it his duty to ascertain that no one is granted liberty unless he is squared away and in proper uniform. In our unit we hold personnel and rifle inspection every working day, plus an inspection of the Guard at informal Guard Mount. The Commanding Officer inspects weekly and, believe me, he holds a real regulation inspection.

1STLT J. G. METAS
Seattle, Wash.

We take pleasure in announcing that

GENERAL JOHN E. DAHLQUIST, U.S.A. Ret.

Formerly Commanding General Continental Army Command is now associated with our firm.

General Dahlquist will be in charge of a new Armed Forces Department, created specifically to provide reliable investment service for members of the Army, Navy, Air Force and Marine Corps. Particular emphasis will be placed upon intelligent planning for steady capital accumulation, by means of regular investment in either individual securities or mutual funds. Headquarters for this department will be located in our Washington, D.C. office.

HARRIS, UPHAM & Co

Members New York Stock Exchange
and other leading security and commodity exchanges

1505 H Street, N. W., Washington 5, D. C.
Telephone: EXecutive 3-2300
Main Office: 120 Broadway, New York 5, N. Y.

35 offices from coast to coast

STOCKS • BONDS • COMMODITIES • MUTUAL FUNDS

Sage Advice

. . . The undersigned found it impossible to refrain from offering some comment on TSgt Towe's letter published in the January issue and the HQMC reply thereto.

My warrant for promotion to Staff Sergeant is dated two days prior to the beginning of WW II. Since that time I have served on active duty as a company grade officer or a Staff NCO. It is my considered opinion that neither directives from HQMC nor the formulation of policy at any level can return prestige to the Staff NCOs. TSgt Towe unwittingly keynoted the entire situation when he stated, "Certainly it will not add to the NCO's appearance in the eyes of the private who has seen him making a clothing display on the adjacent bunk especially when the NCO's layout looks less neat than the Private's." For too long Staff NCOs have been told how good they are and how valuable they are to the Marine Corps. Many are beginning to believe that as soon as they make Staff they can sit around and bask in the prestige. As soon as our Staff NCOs realize that the time has come to stop talking about their lost prestige and get down to work, down to studying, down to developing the traits of leadership and practicing the principles of leadership, then and only then will their lost prestige start to return. Furthermore, those who are looking for quick results are going to be disappointed. It took about 15 years to get down to where we are, and it will take about that much time and even more if we continue to sit around and gripe about the situation to get back to where the Staff NCO stood on the day before Pearl Harbor.

MSGT C. V. CRUMB
Camp Pendleton, Calif.

Eulogy

. . . Upon reading MSgt William G. Ferrigno's letter in *Message Center* (Feb '56), I felt now here's a guy who can speak for the true career Marine who has to live with the new regulations year in and year out for more than a quarter of a century.

Here is a Marine who can see the overall picture, not just a segment, and get the most out of it. This is not a guy who wants to keep the old Corps as it was in spite of any faults. This is a man who wants the old traditions, but also keeps looking for improvements.

His letter said more about the drill mixup than anything I'd ever read or heard, and pointed out a simple solution — revert to the LPM drill for all hands.

If ever there were a Marine's Marine, it is MSgt William G. Ferrigno. I met

ON THE JOB . . . not "on the way"

CONDITION GREEN . . . PREPARE TO BLAST OFF! Space talk is sure to become a reality, as the Air Force continues to design and develop a flying saucer. And Air Force personnel — like the control tower operator in this artist's conception — are being trained *now* as part of the experimental program.

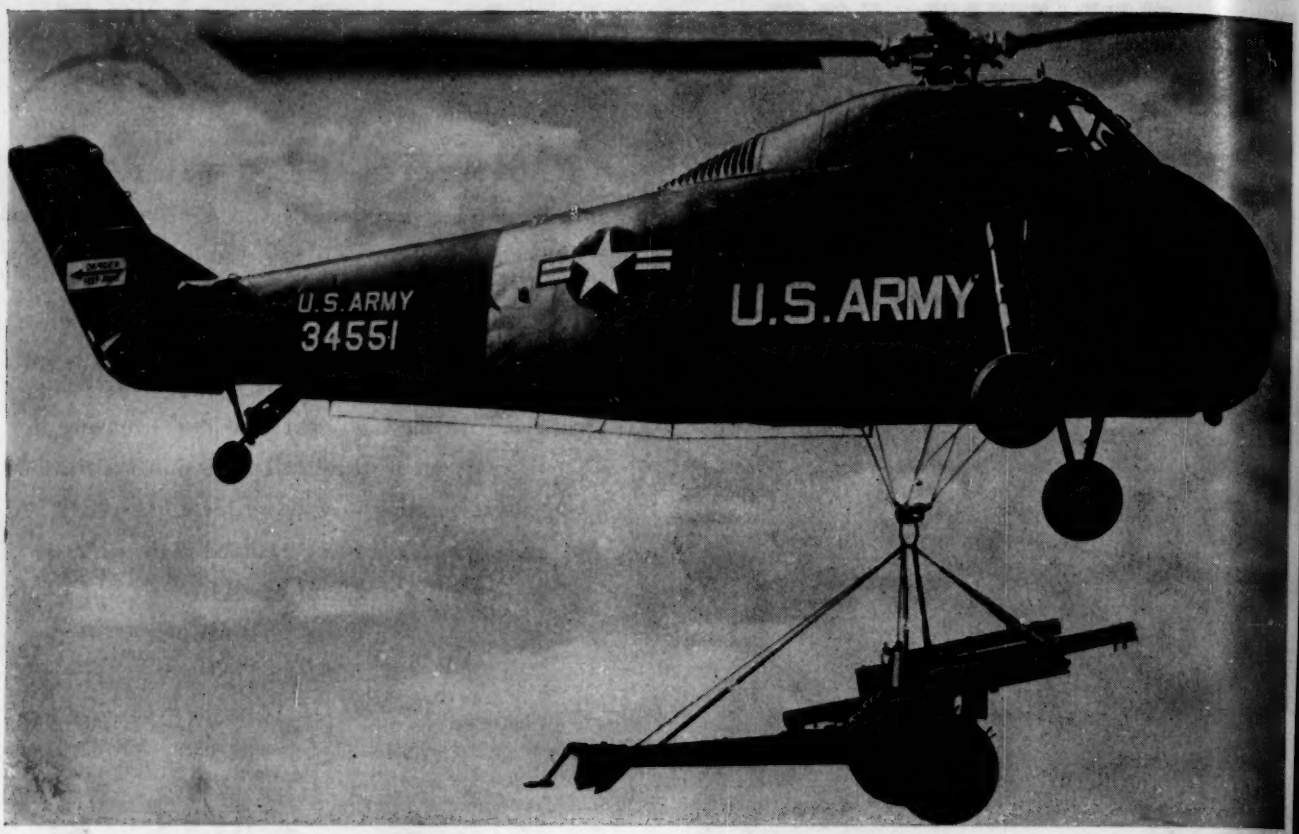
It's important that these key men get to new assignments the fastest possible way . . . via the speedy, dependable Scheduled Airlines. So next time *you're* moving one man or many, call a Scheduled Airlines representative — *compare the cost, speed and dependability* of Scheduled flight with any other means of travel.

10% DISCOUNT for official travel on TR's

Dependable, Scheduled Service Saves Millions of Valuable Man Hours for the Military

THE CERTIFICATED *Scheduled Airlines* OF THE U.S.A.

ALASKA AIRLINES
ALLEGHENY AIRLINES
AMERICAN AIRLINES
BONANZA AIR LINES
BRANIFF AIRWAYS
CAPITAL AIRLINES
CENTRAL AIRLINES
COLONIAL AIRLINES
CONTINENTAL AIR LINES
DELTA AIR LINES
EASTERN AIR LINES
FRONTIER AIRLINES
LAKE CENTRAL AIRLINES
LOS ANGELES AIRWAYS
MACKEY AIRLINES
MOHAWK AIRLINES
NATIONAL AIRLINES
NEW YORK AIRWAYS
NORTH CENTRAL AIRLINES
NORTHEAST AIRLINES
NORTHWEST ORIENT AIRLINES
OZARK AIR LINES
PACIFIC NORTHERN AIRLINES
PIEDMONT AIRLINES
RESORT AIRLINES
SOUTHERN AIRWAYS
SOUTHWEST AIRWAYS
TRANS-TEXAS AIRWAYS
TRANS WORLD AIRLINES
UNITED AIR LINES
WEST COAST AIRLINES
WESTERN AIR LINES
WIEN ALASKA AIRLINES



ARMY H-34 CARRIES 2½-TON HOWITZER—At Fort Sill, Okla., a big Sikorsky H-34, newest member of the Army aviation family, carries a 105mm howitzer. This was the first time an artillery piece of this weight, about 5000 pounds, has been delivered by helicopter ready to fire. The H-34 can airlift 17 combat-equipped soldiers.

AROUND THE WORLD WITH SIKORSKY HELICOPTERS

AIRBORNE BULLDOZER—Flying from the escort carrier USS *Siboney*, a Marine Corps HRS helicopter lifts a bulldozer during exercises in the Atlantic. The HRS is a version of the Sikorsky S-55, used all over the world in industry, in passenger, cargo and mail service, and in many armed forces.

LARGE H-34s FOR RCAF—Six new Sikorsky H-34s have been accepted by the Royal Canadian Air Force, the first S-58 types delivered other than to the U. S. forces. The RCAF also flies ten S-55 helicopters, the type operated so successfully under extreme conditions in the arctic, tropics, and remote areas.

IN CALIFORNIA FLOODS—Helicopters went into action quickly and efficiently to save lives and to transport rescue workers, medicine, and supplies in December floods in California, as in Northeast floods earlier in the year. Above, a USAF Sikorsky H-19 of the Air Rescue Service lands in the only spot in Guerneville, Calif., not inundated. Helicopters from the other services also flew hundreds of mercy missions in the disaster. In floods and other emergencies, the versatile helicopter is a key factor in relief work.

HELICOPTER HISTORY

R-5 LIFTS 18 MEN

On Jan. 10, 1946, this Army Sikorsky R-5 set a world record by lifting 2538 lbs. Above, it illustrates this capability by carrying 18 men. On the same day it flew to a new altitude record of 21,000 feet, almost doubling the previous 11,243-foot record. It also set a speed record of 114.6 mph. A Sikorsky S-59 now holds the official world speed record of 156.005 mph.

SIKORSKY AIRCRAFT
BRIDGEPORT, CONNECTICUT
One of the Divisions of United Aircraft Corporation

Available at Washington, D.C. and Quantico

LIFE INSURANCE COUNSELING

Raymond C. Holben
LtCol USMCR

Representing the

UNITED SERVICES LIFE INSURANCE CO. OF WASHINGTON, D.C.

Serving the needs of the officer and his family

write or phone for an appointment

6516 Millwood Road
Bethesda 14, Md.

Phone OLiver 2-4371

YOU CAN *RELY*
ON
EVALUATED ARMS

The Champions Do!

Winchester Rifles & Shotguns
Smith & Wesson Revolvers
High Standard Target Pistols
Dinan-Colt Match Pistols
Sturm-Ruger Target Pistols
Western Super Match Ammunition
and
Selected Accessories

EVALUATORS LTD.
QUANTICO, VA.

Showroom:
#1 Woodland Dr.,
Triangle, Va.

George O. Van Orden
Brig. Gen., USMC, Ret'd.
President

him about 8 or 9 years ago, when I had around 7 years in the Corps. It was at US Naval Prison, Portsmouth, NH.

At that time I thought I was pretty salty, having behind me several WWII campaigns, and felt I knew all about the Corps. One look at MSgt Ferrigno convinced me I was wrong. A Marine never stops learning about the Corps.

Although he had more than 20 years in and had been a master sergeant for a long time, he was still the snappiest looking Marine in the detachment — and under him we were all snappy.

He's more than 6 feet tall, has a hard military face that can relax in a big grin when the situation warrants. No potbelly he; his posture was an example for all of us.

During the few years I served with him, he taught me more about how to be a Marine than I'd learned in the previous 6 or 7 years.

They say the Old Breed is dead — that may be — but MSgt William G. Ferrigno bridges the gap between the old Corps and the new.

His preference of the overcoat over the raincoat is my own as is that of the campaign hat, but I'd limit its wear to field and duty.

Anyone who ever had anything to do with the curse called Blanco probably got as much of a kick as I out of his description of the Blanco by-products: dust, fouled-up uniforms and sloppy web gear.

And hasn't the Corps, within the last 15 or 20 years, tried and discarded two different types of blouses or jackets for enlisted summer wear?

If more of these savvy old timers would come out in print with their suggestions for the betterment of the Corps, I'm sure we'd wind up with something no other military organization in the world has ever truly known — uniformity.

TSgt Charles F. X. Houts
Cherry Point, NC

Thin Redeployment

. . . In the *In Brief* portion of the January issue, a brief on the redeployment of forces in the Far East contained the remark "Two thirds of the 1st Cav Div will remain in Japan . . ." Technically, the statement is correct; however, to prevent misconception, I'd like to point out that two-thirds of the *strength* of the 1st Cav Div will remain in Japan. The 1st Cav Div will retain its three RCTs, with one BCT of each reduced to a strength of 1 officer and 1 enlisted.

I would like to see the drums continue to beat loudly for the Marine Corps to step back into the lead in the development of the helicopter. Let's stop giving lip service to the HAF and start making it a reality, even if it has to be at the expense of some other types of aircraft and/or perhaps LVTs; and let's continue to sell the Navy on these tactics to insure availability of helicopter assault carriers for all LEXs.

Col C. W. Shuler
G-3 Sec., AFFE/8A (Rear)

Abstract Nouns

. . . Much debate has been going on in the Gazette over prestige, responsibility, authority and leadership. In most cases degree, quality and specific nouns have been lacking. Abstract nouns are always debatable.

When a man is writing about an abstraction, such as his conscience, he must give it a name, and that name must be an abstract noun. When he is writing about something concrete, such as an automobile, he should not need many abstract nouns.

In order to put it plainly, when writing articles on prestige, responsibility, authority or leadership, one should strive to give the exact degree of such a quality that he has in mind.

Quantity, quality and degree, if indicated specifically, would clarify many of the articles which have been published in the Gazette.

SSgt William T. Stroud
MCAF, Santa Ana, Calif.

Lecture Series

. . . I want to thank you for the opportunity to hear the many fine speakers brought forth through the auspices of the Marine Corps Association. For those officers and men not at Quantico, the idea of reproducing these lectures through the media of the printed page is another example of your insight in presenting top-level information. I'd like to see you go a step further, though.

Today one reads of what Napoleon did or did not do, and we build up certain character sketches of the individual's genius (or lack of) merely through the author's (or lecturer's) interpretation of how he found the individual through *his* researches.

Thus we learn a slanted view (if not an entirely 180° view) of what that man actually was. (Who's around to dispute? Another historian or lecturer.)

Today, many of the greatest tacticians of the last decade's war are still with us. Will we learn *their* story through the interpretation of future historians, lecturers, etc, long after they are passed?

I think we're missing a good bet if we don't follow up the interest-provoking series our organization has started by following up with a *modern* series of lectures aimed at letting the present leaders show how they mastered the tools of *their* (and *our*) trade; why they

made certain decisions at Tarawa or Bunker Hill, etc.

Many of our former leaders are now retired, living in the greater Washington area and are choice prospects for informative lectures. Many of us are aware as to *What I'd Do If I Were Commandant,* but not many of us are aware *why* the Commandant had to make certain decisions. We have Generals Vandegrift, Cates and Shepherd to call on to fill this slot in the training schedule — let's draft them!

No one enjoys reading historical monographs or biographies any more than I — but I want to do my own researching — reading those authors who are *pro* and those who are *con* and then make up my own mind. One void I cannot fill, though, by any excess of burning the midnight oil and that is the one left by the individual himself standing up on the boards and telling me his reasons and his planning phase behind his actions.

Battle actions by the commanders, the people who G2'd them, and interest-provoking series by seniors and juniors on *their* ideas as to new tactics, etc, can go a long ways to getting timely and informative information where it belongs — not in the pages of history books or that thick volume up on the top shelf — but on today's pages or tonight's speaker's platforms. Our GAZETTE is getting them printed — let's hear them speak next.

CAPT J. W. DION
Quantico, Va.

Identification

. . . Answering the 'phone in most units the man identifies the unit, his rank and name. Example: *Headquarters, —— Marines, Sgt Black speaking, Sir.*

Then from the originating end of the call it seems to be becoming normal to forget identification. I believe many Marines will concur that remembering to give identification of oneself would be extremely beneficial. Example: *This is Sgt Jones. May I speak to Capt White, please?*

SGT J. R. COPENHAVER
Camp Lejeune, NC

Legal Method?

...I refer to *Masquerade Party,* January Message Center.

Is there any law in the US Code that someone can cite, and request enforcement of by either active military personnel or civil authorities, that would prohibit a civilian from wearing articles of uniform?

I would appreciate a decision for the benefit of all who have had occasion to observe *Masquerade Party.*

CPL JAMES L. FUNKE
Detroit, Mich.

DRONE
'COPTER
Typical of the advanced research and development projects currently being carried out successfully by Kaman Aircraft is this drone helicopter. The technical problems of remote control are more complex with a helicopter than with fixed-wing aircraft because of the 'copter's ability to fly in every direction at varying speeds, as well as to hover in flight. Kaman engineers solved these complicated problems by designing an entirely new electronic control system, miniature mechanical system and small automatic pilot. Kaman is proud that most of its 10 years have been devoted to the National Defense effort to keep the free world free.
KAMAN
THE KAMAN AIRCRAFT CORP., BLOOMFIELD, CONN.

Wherever in the WORLD

You may be, NAVY MUTUAL AID ASSOCIATION stands ready to render immediate, effective assistance to your dependents. Navy Mutual Aid is now in its 77th year of service to officer personnel and their families.

BENEFITS IN FORCE . . . OVER $100,000,000
ASSETS . . . . . MORE THAN $ 30,000,000
WRITE TODAY FOR FULL INFORMATION

Navy Mutual Aid
ASSOCIATION
NAVY DEPARTMENT WASHINGTON 25, D. C.

introducing

A NEW FEATURE WHICH COMMENCES with this issue of the GAZETTE is **The Observation Post** (page 57). It was necessary to inaugurate such a feature because of the great number of responses received in rebuttal to articles which appeared in our pages. Such contributions were such that they were too long and too detailed to be considered as Message Center letters, yet not long enough or of proper content to be considered as articles. Authors of Observation Post contributions will be paid $15.00 per item upon publication.

Marius L. Bressoud wrote *Health to the Regiment* which appeared in the GAZETTE last June. This time he forthrightly discusses problems of personal leadership with . . . *by Character and Skill* (page 14). In the letter which accompanied his article he wrote:

"Since it deals with principles rather than methods and procedures, I think the passage of time, along with the resulting business experience, has helped me to think it through more clearly. And perhaps my disassociation with the Marine Corps in any direct way permits me to say some things that might otherwise be thought an attempt to ingratiate myself with my superiors.

"I'd like to offer the enclosed article as a possible aid to present and prospective rifle company commanders. It is based on my own experience with the 2d MarDiv in '51 and '52 and I have drawn as much from the things I did wrong as those I did right."

Though Mr. Bressoud aims his remarks at the rifle company company commander, his advice is apropos to anyone commanding a like unit.

Formerly a captain, he served in WW II as a platoon leader with the 1st Mar Div until he was wounded and evacuated from Okinawa in June '45. Recalled during the Korean war, he resigned his commission for business reasons upon being released. His civilian position is that of Layout and Art Director for the Bethlehem Steel Co. During his spare time he is active in church laymen's organizations.

MR. BRESSOUD

A MARINE AVIATOR WHO HAS answered our call for material of interest to aviators is **Col Ralph R. Yeaman.**

Concerned directly with the support of Marine air units for many years, he describes the support functions for the Marine aircraft wing in his article *MWSG* on page 28.

Flying for over 26 years and still maintaining a commercial license, Col Yeaman received a degree in aeronautical engineering from University of Washington in 1936, went to Pensacola and was designated as NA in 1937.

In December 1941 he helped organize VMO 251 and went to the Pacific with it. Returning to the States, he commanded MCAS, Walnut Ridge, Ark. until he became head of the Service Engines Branch of BuAer. As Marine Liaison Officer he went to the Bikini Atom Bomb Tests in 1946.

His Korean service was with VMR 152 supporting the 1st MAW. For his part in evacuating personnel from the Chosin Reservoir, he received the Legion of Merit. In addition to his Air Medals he holds 3 DFCs and 2 Bronze Stars.

After a tour with the 3d MAW he was transferred to Cherry Pt. as CO, Marine Wing Service Group 27, his present assignment.

COL YEAMAN

Dr. Louis Morton IS A NAME familiar to anyone who has followed US policy and WW II history in the Far East. Since 1946 he has been chief of the Pacific Section and Deputy Chief Historian of the Army's Office, Chief of Military History.

In this capacity he supervised the preparation of the Army's 11-volume series on the Pacific war as well as those dealing with the Post-WW II and Korean period. He authored the volume *Fall of the Philippines* and is currently working on another book dealing with strategy and command in the Pacific. Dr. Morton's contributions to current periodicals are well known. He has had papers read at meetings of the American Historical Associations and has also lectured at military and civilian institutions as well as being consultant at the Army War College.

His background, in addition to serving as an Army historian in the field during WW II with the rank of Major, includes study at NYU where he received his BS and MA degrees, and Duke Univ. which conferred his doctorate upon him in 1938. Dr. Morton's *Evolution of Japanese Landing Operations* appears on page 44.

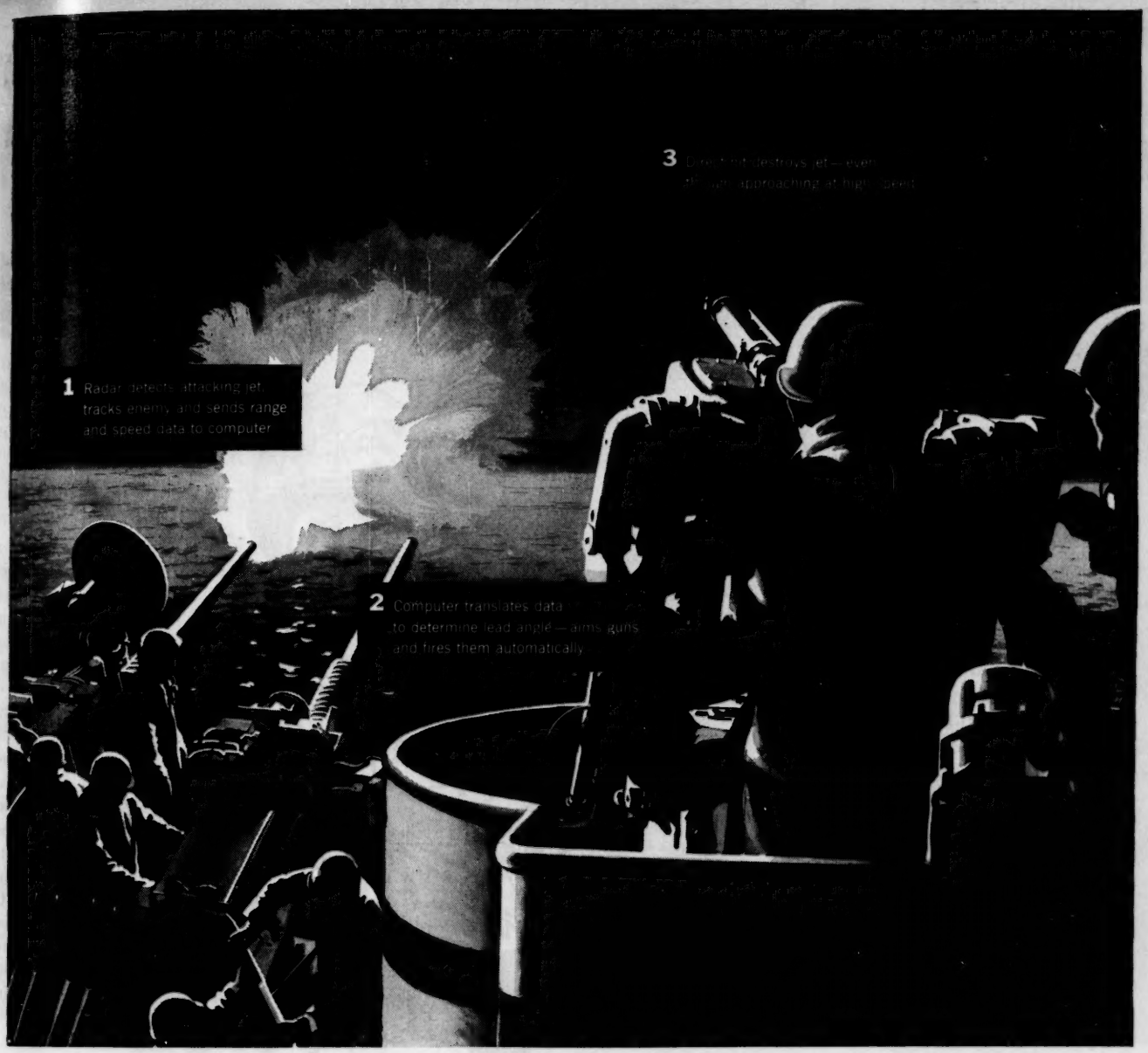
TSgt John P. Driver JOINS THE RANKS of Staff NCO contributors to the GAZETTE with *More Punch for the 60 mm* (page 43). Since joining the Marine Corps in 1942, TSgt Driver has been an aviation ordnanceman; armorer (small arms); infantry platoon sergeant; and has served with explosive ordnance disposal since 1952. He has been awarded the Bronze Star with combat "V" and the Commendation Ribbon with combat "V." He is currently with the 8th Engineer Bn, Camp Lejeune.

TSGT DRIVER

THE AUTHOR OF *No Place for Weaklings*, **LtCol R. E. Carey,** has recently left his assignment as ExO of T&T Regiment, MCS. His plea for higher standards of physical fitness for *all* active duty Marines may be a harbinger of new emphasis to be given this long-neglected aspect of our training. A firm believer in combat-ready toughness for the fighting men of the Corps, LtCol Carey has seen these men in two of their toughest fights. At Iwo Jima with the 4th MarDiv he won the Bronze Star and the Purple Heart; Korea, in 1950 he won the Silver Star. He came to the Marine Corps from NC State in 1941 and went directly to the Basic School at Philadelphia. Before joining the 4th MarDiv he was aboard the USS *New York* and participated in the North African invasion. He is presently enroute to duty in Spain.

NO NEWCOMER TO THE PAGES OF the GAZETTE, **LtCol Robert H. Rankin** is known additionally as the Marine Corps representative to the National Headquarters of Selective Service. As a side interest he is an extensive free-lance writer. His personal military reference library is one of the largest in private hands. Undoubtedly, this library was the source of the information presented in his article *The Bayonet* on page 54.

Meet Mr. Engineer (PAGE 26) BY **CWO W. D. Smith** is an informative article on a subject too few of us know anything about. The growing inventory of Marine Corps operated electronics equipment, and the lack of trained technicians in uniform has caused the Corps to rely on civilian talent. Mr. Smith tells us what these civilian electronics engineers — or field engineers, as they like to be called — do. CWO Smith has been in the electronics and communications field himself since 1937. He is now with Electronics Sec, HQMC.


1 Radar detects attacking jet, tracks enemy, and sends range and speed data to computer
2 Computer translates data to determine lead angle—aims guns and fires them automatically
3

ELECTRONIC GUNFIRE CONTROL GIVES NAVY GREATER ACCURACY

Locates Attacking Jets, Computes Firing Data Automatically

THE STORY BEHIND THE STORY:

■ Next time you hear the shrill "whistle" of a jet fighter flashing across the sky, try to imagine you're a Navy gunner aboard a destroyer under attack. Your chances of hitting that tiny, and perhaps unseen, "speck" racing at you faster than the speed of sound are better than ever before. The Navy's Mark 63 Gunfire Control System is one of the modern steps in the never-ending search for more accurate firing. It has been in use since before the Korean conflict.

■ Developed by Sperry in cooperation with the Navy's Bureau of Ordnance, the Mark 63 Gunfire Control System is part of the Navy's new and more effective anti-aircraft defense. After detection, it picks up the enemy either optically or by radar . . . automatically tracks his approach . . . computes range and firing data electronically . . . then all within the same fraction of a second, aims the guns and fires them automatically from the director. Sperry's engineering know-how – utilizing years of experience in electronics, gyroscopics and servo-mechanisms–has made this possible.

■ Everyone hopes, of course, that our United States forces will never again see actual combat. But it's good to know that gunfire control systems, like the Mark 63, are ready – and ready because the Navy anticipated the threat of today's faster flying jets long before they actually existed. Foresight such as this is the essence of research and improvement in weapons and goes a long way toward keeping the world at peace–toward discouraging possible aggressors.

SPERRY GYROSCOPE COMPANY
Great Neck, New York
DIVISION OF SPERRY RAND CORPORATION

. . . BY CHARACTER AND SKILL

By M. L. Bressoud, Jr.

HOW DO YOU DO IT, SKIPPER? IN a period of repetitive training cycles and understrength units how do you command a rifle company?

The problem is crucial in the situation in which the Marine Corps finds itself today. The danger of world-wide nuclear war looms and fades. There is a twisting, turning, often obscure searching for peace. At times the peoples of the world are heartened by what seem to be genuine demonstrations of international understanding and the maintenance of a military establishment seems unnecessarily burdensome. At other times tension between nations becomes so acute that it is difficult to believe it can be relieved by any means short of war. Then the public clamor for a large, well-trained and well-equipped establishment becomes a powerful national force. Through all these seeming vagaries the purpose of the Marine Corps and of the company which you command remains constant: to prepare for combat and, when called upon, to engage in it successfully.

To accomplish this, the rifle company commander must make the training of his unit real and vital; he must make the goal clear and attainable and the job of each individual relevant to the whole. Today you must do this without the impetus of imminent combat, under conditions of generally liberal leave and liberty policies, the proximity of family cares for yourself and your subordinates, the loss of key personnel to school and special duty assignments, the imposition of rigid daily schedules and a constant burden of administrative details.

How do you do it? Not by blind and servile obedience; not merely by anticipating the desires of your superiors or by being told exactly what to do; not by ignoring your own reason and discretion and playing it safe instead of daring to do the original; not even by singleminded determination alone. If you have not taken time to examine carefully and systematically both how and why you hold this position of command you are untrue to yourself as well as to the Corps and nation you have chosen to serve. Only when we have thoughtful, reasoned leadership will we develop the kind of devotion to duty that makes fine commanders and fine commands.

There is a classic guide to which the rifle company commander can turn to help answer his questions. It will not provide you with a set of answers. You must think them through for yourself. It does provide a pattern by which you can constantly re-examine the conditions under which you must operate.

In the face of the problem confronting him today how does the rifle company commander command his company?

By his character and skill. . . .

Character is a distinguishing attribute; the aggregate of an individual's distinctive qualities; the stamp of individuality impressed by nature, education and habit; moral vigor and firmness especially as acquired through self-discipline. These definitions all tell us that character sets the commander apart. He cannot be a follower of the mob, a

man who lets others do his thinking for him, who plays it safe or who takes the easy way out.

The company commander who can give purpose and direction to his men is one whose character derives from purpose and direction in his own life. He can only command his company if he has the desire to lead. He must seek leadership and responsibility and enjoy them. But he must have thoughtful and intelligent reasons for his desire for leadership. There are many valid ones: a zeal for this vital step in his military career; patriotism which recognizes the meaningful service he can perform; concern for the welfare and the future of the men he is called to lead; a sense of honor which precludes anything but the best he can give; a sense of duty which places the needs of the service above personal needs; sheer enjoyment of the thrill of command and of the feeling of work well done; and any combination of these and a host of other reasons.

A man with an intelligent and driving purpose has the character which enables him to stand up to the most discouraging as well as the most challenging siutations. He will then have the determination to lead –or drive if necessary–the company he commands.

And what is skill? By defiinition skill is understanding and judgment; the ability to use one's knowledge effectively and readily in execution or performance; technical proficiency; a developed or acquired ability. Skill is not knowledge or talent. Skill is the application of knowledge and talent so that plans and policies are carried into effect. In civil life the most thoroughly educated and talented advertising man is successful only to the degree that he has the skill to translate his knowledge and talent into terms of the printed page or the transmitted word and image. In the same way the military man must be proficient in implementing his thinking and the thinking of his superiors over particular individuals and at specific times and locations.

It is the difference between professional knowledge and professional competence. You may acquire considerable military knowledge without any special attribute save the willingness to work hard. But you must have a combination of common sense, originality and mature judgment to be competent in implementing your knowledge. You must also assess the degree to which you are successful in doing this, for the process is one in which methods must be constantly varied to meet changing conditions.

You cannot have military skill without character, for it is the character which leads you to develop and use the skill. You must have both to satisfactorily command your company.

. . . he gives positive leadership to his command . . .

Leadership in any endeavor entails these 3 steps: to understand clearly what it is that must be done; to be mentally at ease in order that you may use common sense in deciding how to do it; and to be effective in communicating to the group what you want them to do. However there is something implicit in the phrase "positive leadership" which goes beyond these 3 steps. It is that quality which makes the men of your company *want* to do what you say after it has been communicated to them. There is a vast difference between doing what is directed simply because one is a Marine, cognizant of the need for obedience and fearful of punishment, or because the leader makes clear a goal he and the individual have in common and makes that individual feel the solidarity of the unit as a whole.

Men are affected and convinced by personal experience. They must be shown. The demonstrated attributes of the leader are the only guide they have, so they evaluate their leaders and accept or reject them on the basis of that evaluation.

There are the obvious attributes of speech, dress and manner. They are so obvious that they are often thought unimportant. Yet they are three ways in which we are constantly making impressions on those around us.

Quite apart from any moral considerations the use of profanity is unwise for a military leader. It is a common and inadequate manner of speech. Instead of bearing the stamp of individuality, the commander who uses it becomes one of the crowd,

incapable of expressing himself in any but the most monotonous terms.

Anyone can dress well from his own quarters The leader must have the reputation of looking neat even in the field. His military appearance under the most adverse circumstances is a guide to his entire command. He does not permit it to become a fetish, however. The simple act of shaving regularly has earned many men a reputation of maintaining a fine military appearance under all conditions.

A quiet and dignified manner, without pompousness or condescension, sets the leader apart. The bellowing CO is always good for a laugh as well as a story and neither is to his advantage.

General Blackshear M. Bryan, Superintendent of the Military Academy, in speaking of leadership has said: "You have to be firm and you have to be reasonable but the two are not in conflict." His remark should be a caution for those who confuse ferocity with firmness and coddling with reasonableness.

For the rifle company commander who feels that he practices an honorable profession, that he is a member of a real brotherhood, there are a host of attributes he demonstrates without ostentation because they are simply part of his belief in the work he is doing. He shows trust in his superiors, associates and subordinates. He recognizes that the battalion commander's orders become his own and he resists the temptation to say to his platoon leaders: "I can't understand why, but this is the way the Old Man wants it." He strives

to deserve a relationship of mutual loyalty, confidence and respect with his battalion commander.

Such a company commander takes the word of his subordinates, oral or written, and is ruthless in having them removed from positions of authority when they demonstrate they will not learn to deserve such confidence. He gives his subordinates the responsibilities and privileges commensurate with their positions. He guides, directs and sets an example for them but exercises his self-restraint by refusing to oversupervise.

His friendship with his company officers is never so close that it becomes difficult to counsel and correct them. His relationship with his executive officer must necessarily be a close one yet there can never be any confusion as to which is the commander. We have all heard that "running a rifle company is a 2-man job." It is not. Responsibilities are not arbitrarily divided between them. It is a one-man job; but that one man needs a great deal of help including the efforts of a dedicated and capable executive officer.

The company commander is a man of courage. If he does not have courage he has nothing. A commodity not restricted to the intelligent and educated, it is the minimum we can expect of him.

Above all he is a man of integrity. He is sincere with himself as well as those with whom he works, freely admitting those things he does not know. He does not fear making honest errors of judgment for he understands the difference between this and culpable negligence both in himself and in his subordinates.

While he knows the company is bigger than he is and that he is its servant (but not the servant of individuals within the company) he recognizes his power to build or destroy it. His ambition is always to leave a fine, combat-ready company of Marines when his duty with them is done.

. . . and maintains its discipline, welfare and contentment.

The company commander who thinks there is a single approach to the problem of discipline, whether it range from that of a genial father to an unyielding martinet, suffers a delusion and does his command a grave disservice. In a very real sense the commander must be "all things to all men." Marines are not produced by assembly line methods. Many times the weak need strengthening as much as the unbridled need to be forcibly curbed and the discipline of a command has as much to do with the former as with the latter.

He must understand that strengthening the weak does not mean courting their liking nor coddling them. They are not served by methods which have no place in a rifle company.

Many military authorities correctly believe that the greatest deterrent to good military discipline is the extensive civilian influence in our Armed Forces today. A great many junior officers live very much like their civilian counterparts, in off-post housing areas, commuting to work each day and resenting those duties which interfere with their normal 8 to 5 working schedule. Their "trade-union philosophy" is often shared by the NCOs they lead. The sense of brotherhood, of community with other military families of the same post or unit has been lost. The rifle company commander finds that his primary tools for instilling a sense of solidarity in his company—his subordinate leaders—have little conception of it themselves.

Whenever and wherever appropriations can be made available, the Marine Corps will find that providing quarters for more married, commissioned and noncommissioned officers on the post will be richly rewarding in increased efficiency and attention to duty.

There is another area in which civilian influence is felt. Rear Admiral Albert E. Jarrell writing in the *US Naval Institute Proceedings* said: "The present tendency of civilian standards is the greatest single cause of lowered efficiency." It is true that a taut ship is an efficient ship. No one is less deluded by the claim that civilian personnel techniques can be applied to military personnel than the man who has had both professional military and civil experience.

In our age and in our nation the voice of the majority has become the voice of authority. From national government down through every sphere of politics and business the statistical compilation of majority views has become our guide to action. Few people dare to suggest that the majority may be wrong. Many who recognize this possibility would still prefer to be wrong with the majority than right with a minority.

This can never be right for the military. A commander may welcome the opinions of his subordinates, but in the last analysis his highest function is to override a "majority" opinion when his own professional knowledge tells him it is wrong. It is not always necessary to offer explanations for your decisions. Sometimes it is healthy for the company to do it your way simply because you say so. Willing compliance under these conditions is a demonstration of confidence that is the highest type of discipline.

Troop welfare and contentment involve more than proper quartering and satisfactory food. Every individual has two kinds of relationships which threaten his welfare and contentment: those which are personal and those which involve his

associates and superiors in his military duties.

Your function as to the latter are self evident: to give every man a fair hearing; to be equitable and constant in administering punishment or making recommendations under the UCMJ; to make sure no one is burdened beyond that which is expected of his associates; to see that you so thoroughly understand personnel administration that no deserving person is deprived of opportunities for promotion, special training or other considerations.

Do not discount the help you can give in a man's personal relationships. By simply being willing to listen you can do much to relieve tension. Be careful to distinguish clearly between what you say as a man's company commander and what is your personal opinion. But do not hesitate to express what mature judgment and common sense lead you to believe. Remember that you are training this company to engage in combat successfully. The daily routine will be gone; the whole of this man's personality, including his personal problems, will be your concern as you live and fight with him.

Before his retirement Gen Ridgeway said: "There is still one absolute weapon—the employment of which dominates every consideration of national security—the only weapon capable of operating with complete effectiveness—of dominating every inch of terrain where human beings live and fight, and of doing it under all conditions of light and darkness, heat and cold, desert and forest, mountain and plain. That weapon is man himself." If you and your men believe this; if you have this kind of confidence in yourselves and in the job you are doing; the discipline, welfare and contentment of your company will be assured.

He actively supervises the training of all elements of his company . . .

Watch the companies whose commanders stay in the barracks while the ExO takes the outfit in the field. Take a good look at the troops who are marched to a training area by one of the platoon leaders and joined by the company commander who jeeps out after going through the morning mail.

It's impossible to convince troops that training is important unless its important to you. There is nothing as deadly as an hour's march to a training area when the march itself lacks any training element whatsoever; when it becomes simply a means of locomotion not even dignified by the COs presence.

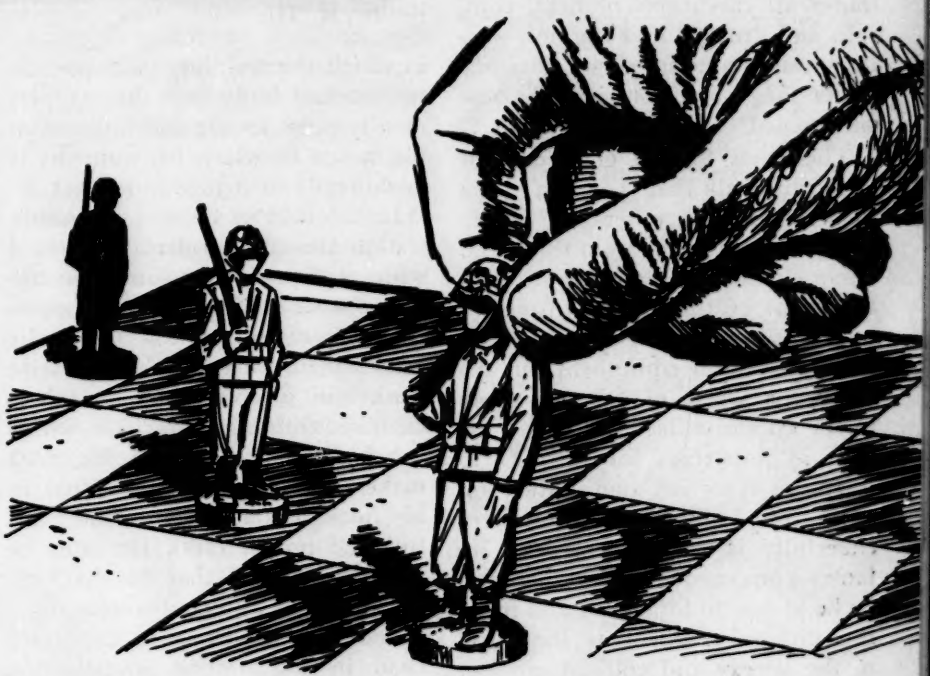
There is only one place for the rifle company commander: with the troops. He must supervise and lead them at every moment. The omnipresent company commander is what the company needs and what it deserves. There is a double benefit from this kind of attention to your responsibilities. This is not simply a question of the CO training the company but in a very real sense of the company training the CO. The poorest rifle company commander is the one who deludes himself into thinking that the only important transmission of information and experience is from himself down through the unit.

Is such expenditure of time impossible for you? Do you have too many administrative and supply details to look after? There is only one solution: to delegate as much authority as possible and simply do what must be done after training hours. This is the price you must pay for having one of the 9 best jobs in the regiment.

There is only one question you need to ask yourself in order to evaluate the training of your company: Are the men learning things they ought to know?

One of the most severe problems you have to face is that of changing personnel. This may have meant beginning with fundamentals in every training phase. The procedure of starting, each time at the beginning and, in consequence, never reaching the end, frustrates the primary purpose of training your company: to develop their willingness and ability to engage in battle.

Here is an outstanding opportunity to analyze the things the men of your company need to know and to do all you can to teach them. With your battalion commander's permission and the help of his S3, your training schedule can be made flexible enough to accomplish the things that need to be done.



There is one failing that seems almost universal among rifle company commanders. The training of "all elements" of the company suffers from the fact that the CO spends virtually all his time with his rifle platoons. They deserve the largest part of his attention, but to neglect machine guns, mortars and company headquarters is to have less than a whole company. Where is the single goal, the sense of family and solidarity if all elements are not trained together? Resist, as far as is within your power, the tendency to consistently train mortarmen and machine

gunners with weapons company personnel instead of with their parent companies. This may be workable for certain specialized training phases, but it is dangerous whenever a man becomes more conscious of being a machine gunner than of being a member of Easy company.

There are many other areas of neglect in approaching a training schedule. The alert company commander will be aware of them because he will realize they are areas in which his troops are not learning things they ought to know.

Unwillingness to continue field exercises in inclement weather is one of them. Men must live and fight under all conditions of heat, cold, rain and drought and the only way they can maintain their efficiency under these conditions is to become accustomed to them.

There has been a good deal of misleading talk that "you don't have to practice being miserable." Nothing could be further from the truth. Troops accustomed to operating in inclement weather not only function more efficiently and take better care of weapons and equipment but develop the knack of keeping themselves comfortable. And it is at least as important for the CO to learn this as for any man in the company. The ability to endure misery cheerfully is essential for the infantry commander. Only then can he be at ease to forget self and make the unhurried decisions that lead to the speedy and efficient employment of his unit.

Perhaps if we were permitted only one criticism of the manner in which rifle company commanders generally implement the training program it would be a failure to set high standards and to insist on their attainment. It is essential that the commander understand the degree of proficiency he expects of his company. It is not enough to simply "try hard" and then accept whatever degree of proficiency results. If you have certain standards clearly in mind you can then devote your efforts to seeing that they are attained.

. . . and insures proper administration . . .

Until now we have spoken of those responsibilities of a rifle company commander which only he can effectively execute. They have been areas

in which the training, guidance, direction and leadership that he personally provides are the indispensable means by which his company is made ready to engage in combat.

In the field of company administration the commander is provided with personnel to assume the authority that he delegates. It is amazing how often the CO personally carries the burden of administrative work and is obliged to let others exercise training functions which are not properly theirs. He must make sure that each individual in his headquarters is performing his full and proper tasks. He must be particularly sure that his ExO relieves him of all possible detail and in no field is this more important than in the routine investigation and processing of actions under the UCMJ.

While it is right that the company commander should certify no report or document unless he is certain its contents are correct, this should not suggest that he personally check each item. He must have—or develop—the kind of trust in subordinates that permits him to accept their word. This is the kind of confidence that results in the high type of discipline we have already discussed. What must be made clear is that the commander will never certify a report he knows to be false; whether it be to satisfy a superior, protect an associate or subordinate, or to help himself.

Administratively, the good rifle company commander is a good businessman and his 1stSgt is his office manager. Aside from administration you have a right to expect your company 1stSgt to be your company's *first* sergeant as well. He should be a source of discipline and example for the whole company. He may often and properly be left in the barracks to insure proper administration and the smooth handling of any component left behind while the company is in the field. But do not slip into the dangerous practice of leaving him behind when you are in the field with other companies and higher echelons lest some day you find yourself with a 1stSgt incapable of operating efficiently in combat.

If you have a "Top" capable of all these things you owe him a great deal. Your loyalty and your influence will help protect him from burdens that might properly be handled by battalion headquarters or by the platoons. His quarters and the office space he has should reflect the regard you have for him. In these days of multitudes of daily and special reports, tripled legal work and the initiation of much correspondence at company level, you should see he has a competent typist and a typewriter in his office.

There is a field full of pitfalls for the unsuspecting CO. This is leave and liberty policy. Be fair to *all* the men of your company by establishing a fair and well-publicized policy. Be wary of making exceptions. Do not permit unauthorized combinations of passes or close your eyes to violations of distance limitations. Neither of these is a favor to the in-

dividuals concerned or to the company. The results of traveling too far, too fast and too late range from decreased efficiency to death. Your policy will be criticized only if it lacks constancy and equitability.

No American businessman would be without a calendar of anticipated events and deadlines. Yet, surprisingly, many commanders think they can run a business involving over 200 men and vast quantities of equipment without one. Don't rely on keeping these things in your head. This is an elementary administrative precaution that will prevent you from being the little company commander who wasn't there.

. . . and the procurement and maintenance of equipment.

Just as some company commanders preoccupy themselves with administrative matters to the exclusion of more important functions, others involve themselves with supply matters. The supply of a rifle company is a service function for which the T/Os provide personnel to relieve the commander of the detail, but not the responsibility, of seeing that his unit is properly supplied. Here is a second area in which an able ExO can relieve you of much personal supervision.

You must assure yourself that equipment is being properly obtained; that your supply personnel are made aware of every opportunity to secure, or survey, needed material; that they are given the means and the time to provide those extra services and supplies, the hallmark of the top-notch supply sergeant, which go so far toward the training and welfare of the company; that equipment is being properly maintained in the hands of individuals to whom it is issued as well as in the storeroom. You must assure yourself that these things are being done but you must develop the people to do them. If they are doing a good job and are relieving you of the mountain of work which is involved, you should be happy to accept responsibility on the very few occasions when something goes wrong.

"The officer who used to feel that he was capable of accepting the responsibility and accountability of command is being replaced by the officer who feels that he does not have to be so careful because, if he gets into trouble, he has a good chance to escape punishment, to escape accountability." We may hope that Adm Jarrell overdrew his point for the sake of emphasis but there is no denying that this is true in many cases.

Of course, this quotation refers to every phase of a commander's functions: tactical, administrative and supply. Yet nowhere is it more pertinent than in regard to the company equipment for which you are responsible and accountable.

The current anxiety to protect oneself in regard to company property obscures the real purpose of accountability. The company is to be protected against the loss of vital equipment, and the financial protection of the CO by producing old requisitions and sworn affidavits does not develop an acceptance of accountability which provides such protection.

The only "protection" the equipment conscious commander needs is an honest and complete inventory of property before he accepts accountability and seeing that conscientious care and maintenance is provided thereafter. No officer can produce equipment which was not in his storeroom to begin with and the new company commander should refuse to be charged with equipment he knows his company does not have. A thorough inventory immediately on assuming command is a requirement you cannot afford to neglect.

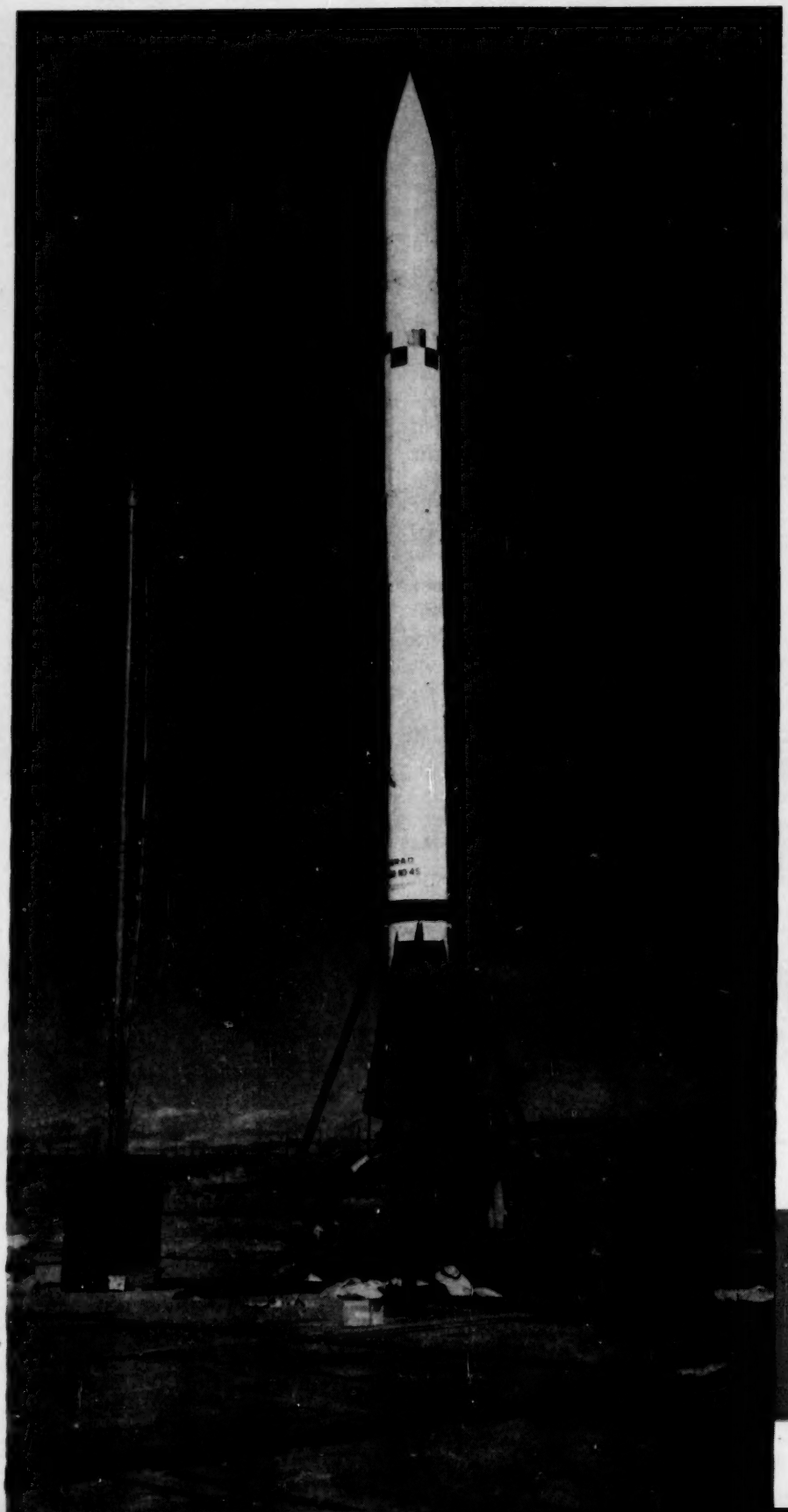
Administration and supply often seem far removed from the command functions of the rifle company. Yet they are an integral part of the whole picture. The same qualities that make a fine field commander insure the proper administration and supply of his company: driving purpose in his life and in his work; professional competence; integrity; attention to duty; mutual trust and confidence in his relationships with superiors, associates and subordinates.

You command by character and skill. Through character and skill you provide positive leadership. Character and skill enable you to assure the discipline, welfare and contentment of your company; to properly supervise its training; to provide good administration and to ensure satisfactory supply. Character and skill: these are the raw materials from which you must fashion your approach to every problem. The way you use them is entirely up to you.

Show us how, Skipper. USMC

Are they accurate . . . reliable?

Here's the hit-or-miss factor



By Maj C. E. LePlant

IN A DISCUSSION OF GUIDED MISSILES most any old campaigner will look up from behind 4 rows of ribbons just long enough to tell you that "Guided missiles are too d——d hit or miss!"

"They are too fragile," the pilot who brought a shot-up F2H back to K-3 will remark.

"They are too expensive," the budget minded supply officer will say.

The old salt will add the finale: "Dammit, they're just too unreliable!"

These are the critics. And the critics are right, up to a point. Undeniably guided missiles are expensive. The cost of a single missile is measurable by M1 rifles and gallons of jet fuel. Without doubt, extreme care is required in their handling, checking out and launching. They can't be tossed into the back of a 6x6 truck like a case of .30 caliber ammunition and they lack the human touch that brought the pilot's plane back to a safe landing.

But the big question was brought up by the old salt's final remark. Are missiles unreliable? That is the question you want answered before you trust them with your air defense problem or jump out of your foxhole and turn in your M1.

One word of caution to you who are already enthusiastic advocates of guided missiles: do not turn in your M1 or sit back with your air defense problem safely tucked away in a bunch of guided missiles—not just yet. And to the critics a word of wisdom: one look into the future is worth a thousand into the past. Missile designers have been looking into the future and have come up with a great many practical ideas in a remarkably short period of time. Think back and you will recall that it was not until after WW II that this country seriously started work on guided missiles.

Within these 10 years missile designers have taken space fiction out of science magazines and adventure movies and put it into the sky overhead. In the same space of time our airplanes have progressed from relatively slow propeller planes to supersonic jets. This transition has been dramatic but it certainly isn't as revolutionary as the rapid development of guided missiles.

By the end of WW II this country had developed and put into the hands of troops comparatively simple rockets to supplement the delivery of ordnance into enemy territory. The first use of rockets by the Marine Corps was during the Saipan operation in the summer of 1944. The only true guided missiles in service use, by any country, were the German V1 and V2 rockets. Today, there are tactically sited guided missile systems capable of destroying the fastest and highest flying aircraft in the world. The Navy has kept pace with the other services by converting conventional cruisers and destroyers to guided missile launching ships. The successful development of missiles for service use has been a gigantic undertaking. The chart on page 25 shows some of the missiles and rockets which have either been developed or were test vehicles for present day equipment. In spite of the almost unbelievable progress there are still skeptics who consider guided missiles as totally unreliable and really not worth all the expense.

At the turn of the century the same skeptics insisted that a machine could not be made to fly, the autocar would never replace the horse and carriage, and the radio gadget would never be anything more than a tinker's toy. This attitude was based on the premise that these gadgets were not and never would be reliable. All those nonsensical inventions are now necessities. Can you say that in another 40 years guided missiles won't be as reliable as your new car or your household radio?

Before discussing guided missile reliability you should understand the definition of reliability.

Reliability is sometimes defined, in a strict military sense, as the ability of a device to perform as prescribed. This, however, is incorrect. Reliability is not an ability but a probability, namely the probability that a device will perform as prescribed under all service conditions. Reliability must therefore be clearly understood as a mathematical term. Thus, the true definition is that reliability is the probability that a device will function successfully under all environmental conditions occurring in service.

You probably noted that the time factor was omitted in this definition. Actually, the period of time during which the components—for example, rivets, vacuum tubes and gears—are intended to operate perfectly is just one of the many design cri-

teria and environmental conditions which must be considered in component design, manufacture and service tests. In guided missiles these other criteria — for example, maximum shocks and temperatures — might constitute far greater hazards to reliability than the length of operational time. The service life of the components of guided missiles is relatively short as compared with the components of other equipments such as airplanes and radars. The length of expected service life would appear, at first hand, to lessen the degree of reliability required for guided missiles. Unfortunately this is not the case because missiles require the highest possible reliability even though the expected length of operation is very short. You may be one of the many who believe that, with due consideration for the short service life of the missile, there is a valid comparison for the reliability of missiles and supersonic jet aircraft.

Because of the similarity in physical configuration, it is natural for you to think of a missile as simply another form of conventional aircraft. The physical likeness may also lead you to believe that a missile is an airplane without a human pilot.

The apparently obvious assumption that a missile is a pilotless aircraft leads to another erroneous conclusion—that the components of

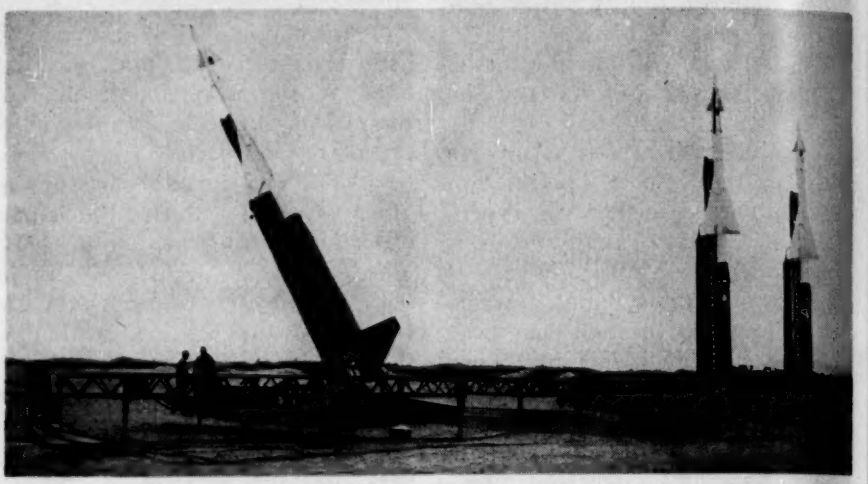
Regulus

guided missiles need not be as reliable as those of piloted aircraft. The inference is that the missile need not be as reliable since no human being is aboard and no human life is at stake should the missile malfunction.

The basic error in this thinking lies in the failure to consider the fact that in piloted aircraft only a few components, such as wings, stabilizers, propellers and similar structural parts, are vital in that failure of any one would undoubtedly cause the loss of the aircraft. There are thousands of other components in an airplane that are not essential to the inevitable failure of the plane. For example, the automatic pilot may fail but the pilot can fly without it by paralleling or adjusting for the failure while in flight and make a successful landing without serious damage to the aircraft. The pilot who brought the shot-up plane back to K-3 had many component failures but he still was able to land the plane safely.

The component reliability factor is much more critical in missiles. There are virtually no parts which are not vitally essential to flight or intentional termination of flight such as controlled warhead detonation. All components, down to the last valve, resistor and bolt, are critical because the failure of any one will, with absolute certainty, cause the missile either to miss the target or break up in flight. The failure of the missile at the point of launch, or shortly thereafter, will more than likely cause a military disaster and the loss of life among the launching crew. Another argument for high reliability is the cost of missiles. Missiles, because of their complexity, are expensive — an average cost of $50,000 is a fair estimate—and since they cannot be recovered after launch, their reliability must be high enough to warrant their use.

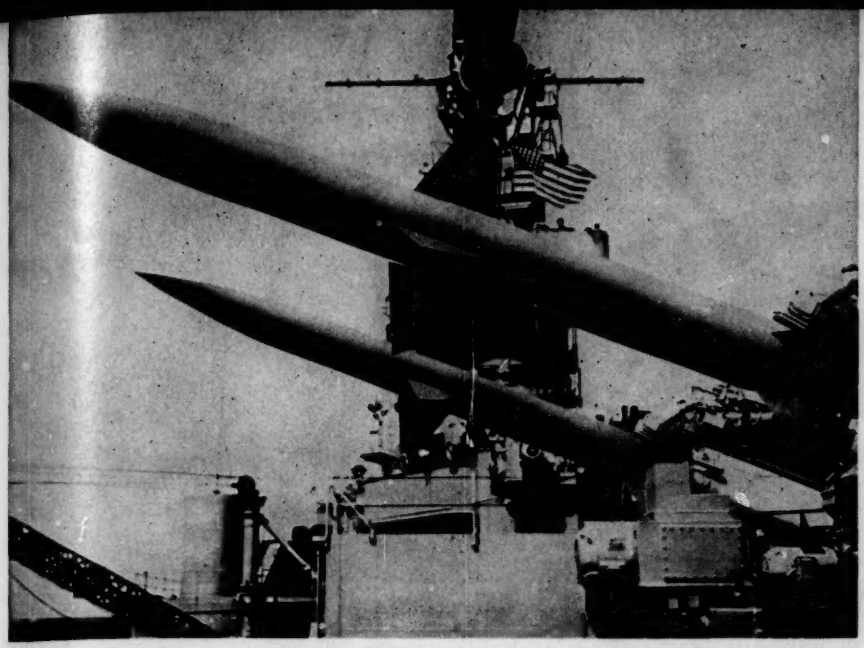
If aircraft depended on the near absolute reliability of every rivet and welded joint there would probably be no aviation at all, for would you want to fly in such a death-trap?



Nike — surface-to-air, in launching position

The question then arises: How reliable must a guided missile be to insure a reasonable hit probability? To illustrate this reliability, consider a missile with related control equipment, which has a total of 5,000 components, each with the reliability of .999. With this seemingly high probability it would normally be expected that a majority of the missiles would hit the target or pass within the lethal radius of the warhead. Using simple mathematics with this factor will show you that only 7 missiles out of a thousand will kill a target! Naturally you consider this number of target kills as being too low and an unacceptable figure. This is a low number of hits, but recompute the reliability of the same system with component reliability of only .9985. You will find that you can now expect only 5 target kills out of every 10,000 missiles flown!

The number of 5 in 10,000 may not mean too much to you. Consider though what would happen if your car, like a guided missile, required the same high component reliability. For sake of illustration think of your new 210 horsepower Superflash V-8



Terrier — on dual launcher aboard a battleship

as having only 100 parts, all vital, each requiring a .999 reliability factor. How often do you think you would be able to use this car in a carpool? A quick look at your slide rule will give you the answer. Your calculations will show that you would be able to deliver your riders to their offices just 2 mornings out of every hundred! The other 98 times one of the hundred vital parts would fail. Maybe the failure would be a flat tire, low chamber pressure, or such a small thing as a dirty spark plug. With your missile-like car you would probably be able to collect your riders even if one of the vital parts did not fail completely. But if that one part was not working at its required proficiency you would, at best, be late getting to the office. Or worse than that, you might end up in the Pentagon when you were due at an 8:00 o'clock meeting with the Commandant in the Navy Annex. Missiles, unlike your car, have to perform at near absolute reliability at all times or they do not hit their target.

Obviously, with the missile effectiveness being achieved at the present stage of development the overall probability is somewhat higher than .999. The fact that the existing missiles are reasonably reliable is a credit to the ingenuity and resourcefulness of the designers and manufacturing agencies.

In this discussion, as in most discussions, there is someone from Missouri who must be shown. At about this point he will put you on the spot and ask how you determine a missile's overall probability. To make the answer as simple as possible you should apply a rule or formula which even a schoolboy can use. This formula is: overall performance equals the product of the reliabilities of all the components. If a missile had only 2 components, the overall reliability would be the product of the reliability of both components or the reliability of one, times the reliability of the other. If the missile had 3 or more parts the overall probability would be the probability of the first, times the second, times the third, and so on.

The value of such a computation is that it serves as a reminder to the missile producers that the missile reliability lies in the end product and in the average of the component reliabilities.

The old salt begins to see the light about this time and asks, "What is the presently accepted level of part reliability?" Offhand you may not know but the following argument will help you find an answer:

If one per cent defective parts is considered satisfactory, then an average of defective parts must be acceptable. However, in sampling a 100 items, it is not unusual to find 3 defective components. Therefore, to avoid rejecting usuable material, the allowance of 3 defective parts out of every 100 must be made. A one per cent rejection factor may be acceptable for one type part and not for another. Usually a one per cent faulty part factor is acceptable for airplane parts because the majority of the components are not vitally essential. For guided missiles all components are critical and even this one per cent allowance is absolutely intolerable.

A missile is often considered as reliable as its weakest link. This is true of a common chain but it is a mistake to make this analogy with a missile. In fact, it is far worse than that. The overall reliability of a complex missile system is seriously affected by the decrease in reliability of each and every component since the operation of one depends on the effectiveness of the other. In the chain, the strength of one link has no relationship to the weakness of another. Every weak component in a missile must be determined and corrected before it causes the failure of the whole weapon.

To remedy an unreliable component part it is necessary that that cause of the failure, such as unstable tubes, poor electrical contact and sheared rivets, be accurately determined. To prevent occurrence of the same failure in subsequent units the ultimate causes of the deficiencies must be discovered and corrected. Some of the reasons for component weaknesses are: too lenient safety factors, inaccurate estimations of part strength, poor design and workmanship during manufacture.

Of these 4 faults, the first 3 can be corrected in the design stage of manufacture. Inferior workmanship, however, must be considered separately.

Honest John

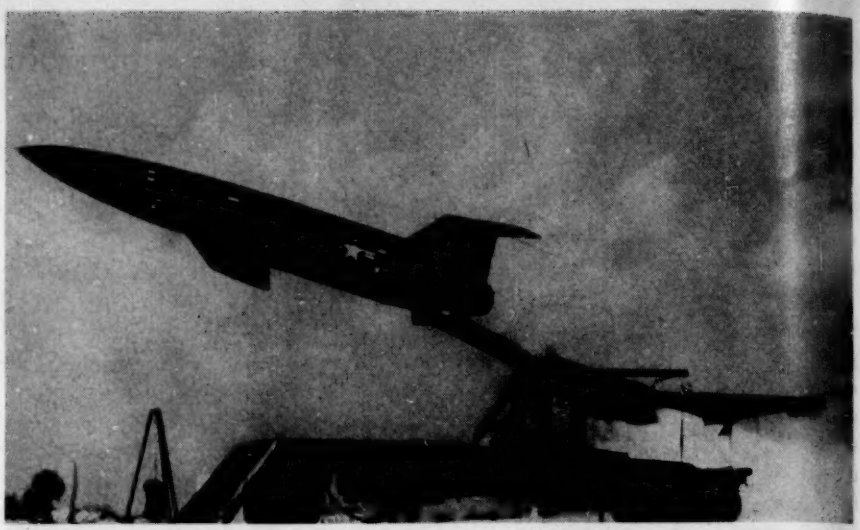
Poor Workmanship — Poor workmanship, of the 4 imperfections, is the easiest to correct. Close supervision and the careful screening of employees usually corrects this condition. Faulty design is more difficult to rectify.

Safety Factors — Too often it is proven during actual flight tests that the design parameters of a component are too lenient or some important features were overlooked. To combat this, the parts manufacturer attempts to produce the items to surpass the design specifications by as much as 500 per cent to insure reliability. To make a part with such high reliability is expensive. The cost of a vacuum tube for example may be $2.00 at the design specification level. To produce the same tube with a reliability of 500 per cent may cost 5 times more. The decision then has to be made whether the missile should be made from the cheaper, less reliable, components or the expensive but more reliable parts. With the cheaper unit only marginal performance is expected. The more expensive item can be expected to have a high reliability but it may cost 5 or 10 times more. It must be considered that the price of the more reliable and expensive component will greatly decrease in the mass production stage whereas the cost of the cheaper and less reliable part will remain relatively the same.

Contrary to popular opinion, faulty design poses a more difficult problem than the manufacture of a piece of equipment. A component, even though manufactured to the designed reliability, may fail as a result of abnormal conditions at launch or during flight. Such a component is obviously of inadequate design. Unfortunately there is little chance to determine the nature of the weaknesses in flight tests because missiles are usually not reoverable.

Design Weakness — Design weaknesses are traced to either environmental conditions, strength of materials, or safety factors.

Many environmental conditions are often only vaguely known, if known at all. The actual conditions are frequently much more severe than those specified or anticipated by the designer. A component can be reliable when tested in an air-conditioned room without exposure to shocks, vibrations or temperature extremes. In the climate of the simmering desert or in front of a high thrust rocket motor the same part may fail immediately. But even if the environmental conditions were correctly computed a unit might fail due to unforeseen breaking stresses of material.



Matador — an operational pilotless bomber

Inaccurate Estimations of Part Strength — The strength of a part type varies from unit to unit with respect to a given environmental condition. This variation is usually much larger than the designer suspects and is therefore often not considered in the design. Even samples of steel wire taken from the same spool may show a range of breaking strength which is 10 per cent of the average strength. This is conceivable but it is not well known that the strengths of the fragile components in a delicate machine may vary as much as 50 per cent, 100 per cent, or even more of the average strength value. It is therefore necessary to determine test values from as great a number of samples as possible. In the manufacture of missiles it is necessary to perform such tests and utilize only those materials which possess above average strength to assure that even the weakest part will survive actual services stresses.

Safety factors are often specified with too much tolerance. The safety factors presently specified for missiles were adopted from piloted aircraft where they are acceptable and satisfactory. The pilot in this discussion is a little dubious at this point and will throw this kind of a question at the group. "Why are the safety factors for airplanes unacceptable for guided missiles?"

The answer to this question can best be illustrated by analyzing the structural safety factors for both aircraft and guided missiles. In piloted aircraft the structural factors are 1.15 with respect to yield and 1.15 with respect to breaking stresses. These moderate safety factors allow for only the natural variation in the strength of the basic materials such as steel, aluminum and copper. However, there is an additional and powerful safeguard against breakup: the Design Load Factor.

As an illustration of the Design Load Factor, consider the load factor of 4 which is specified for commercial airplanes to protect against vertical loads caused by over-control and gusts. The total safety factor is simply the product of the load factor of 4 times the 1.5 breaking stress safety factor, or 6. Keep this number 6 in mind.

The reliability of planes depends not only on the absolute strength of the basic materials used in their manufacture but also on the maximum loads actually occurring in flight. The commercial aircraft usually does not encounter vertical loads as high as a factor of 4. The pilots are trained to control the planes so efficiently that rarely does the plane exceed load stresses of more than half again the acceleration of gravity. Even in rough weather the plane is seldom exposed to stresses over 2G. You can see that the plane enjoys a comfortable safety

factor of 3, or the total safety factor (6) divided by the maximum stress applied which in this case is 2. Even when you as a passenger feel that the plane is about to come apart there exists a 100 per cent safety margin when the aircraft is exposed to gust loads as high as twice the force of gravity.

In some cases the designers of missiles have failed to realize that the safety limits must be higher than for an airplane. In contrast to the pilot of an airplane, a guided missile cannot sense the forces to which it is being subjected. The missile feels no pain and knows no fear and will approach and exceed the critical limits of the system without hesitation. This alone justifies the requirements for high specifications in order to safeguard the unfeeling missile. However, having the correct specifications is only the first step in correcting a defective component.

The only sure method to remedy a faulty part is to test it systematically up to a failure point. To accomplish this, the manufacturer must test a significant number of units with increased severity of environmental conditions and design criteria. This method is called the test-to-failure method.

The test-to-failure method has a great economic advantage. The number of tests required to prove the strength of a component type is very small compared to the great number of tests required when the reliability is obtained from operations under the severity of actual flight conditions. In the test-to-failure method it is reasonable to assume that 10 or 20 tests will suffice to determine the failure point of a part. Using actual flight conditions usually requires several thousand launchings to detect all faulty parts.

Another important advantage of this method lies in the fact that studies can be made of the defects and malfunctions at close range. In most cases this leads to quick and accurate improvements. Through the use of this method, maximum economy can be exercised, and in these days of high cost this is important to you as a service man and taxpayer.

Up to this point nothing has been mentioned about personnel errors. This has been done purposely because it is common knowledge that whenever a man performs a function as part of the operation of a system, errors are made which are directly attributed to him. It is possible to fire on the rifle range and get a perfect score, provided you use a bench rest for the rifle. A perfect score has never been fired by a man because he makes human errors. The rifleman attempts to improve his score by analyzing and correcting his shooting form. The same procedure is used in missile units to train the operators. Admittedly guided missile systems are complex, but with adequate training the average Marine can learn to do his job in an acceptable manner.

The armed forces demand operational equipment that is as reliable, sturdy and inexpensive as possible. You know also that the services will accept guided missiles, like rifles and airplanes, even though there be certain deficiencies. The only justification required is that the equipment do the job asked of it with a reasonable assurance of success.

Even the most naive person does not consider missiles as the cure-all for every military problem, but compared with the more conventional weapons they give the best return on the investment. In this comparison you must realize that the missile must make a direct hit whereas the guns will use VT fuzes. And did you know that present day surface-to-surface missiles have greater range but yet are 10 times as accurate as the German V2? In addition there are air-to-air and air-to-surface missiles attaining the same high degree of effectiveness.

The old salt and the pilot were obviously not aware of the status of guided missiles. And the supply officer has not figured on their effectiveness or he would have seen the savings gained by using $10,000 missiles to knock out multi-million dollar targets.

The infantrymen will carry their rifles long after missiles become operational, but their job will be much easier. And the air defense officer can begin to breathe easier because he knows that if a few enemy planes slip through his outer defenses he can still knock them out of the sky with his trusty guided missiles. USMC

GUIDED MISSILES & ROCKETS IN U.S.A.

SURFACE-TO-SURFACE

CORPORAL
REDSTONE
HONEST JOHN
REGULUS
MATADOR
LACROSSE
DART
SS-10
D-40
HERMES
SERGEANT
NAVAHO
TRITON
SNARK
RIGEL
V-2 ROCKET
AEROBEE

SURFACE-TO-AIR

TERRIER
NIKE
TALOS
BOMARC
HAWK
LARK
POGO
VIKING

AIR-TO-SURFACE

DOVE
OMAR
PETREL
RASCAL

AIR-TO-AIR

SPARROW
ORIOLE
SIDEWINDER
METEOR
FALCON

MEET MR. ENGINEER

Emphasis on electronics and guided missiles indicates that he will be around for a long time

By CWO W. D. Smith

IN NO AREA OF THE MANY TECHnical services performed by Marines is more demanded of the individual than in the burgeoning field of electronics. And no field in the Marine Corps is more omnivorous in its incessant cry for more and more trained men. But, in truth, the squeeze is on; trained men are scarce and the indications are that they will become more so during the coming years.

This was not always the case. At the turn of the century the signal specialists qualified for their "MOS" by virtue of a quick eye to decipher semaphore and a strong leg to run the CO's written messages. Today's electronics technician faces a monumental task to become checked out on the diversity of complicated equipments and systems in the Marine Corps which range from the relatively simple field radio set to the nightmarish fire control systems.

What's the answer? It could be in intensifield training programs, or in a revision of the T/Os, or in special inducements to recruits with previous training. But those are long-range planning problems, and the need is now.

With the field of electronics expanding so rapidly that new developments are often obsolescent by the time they roll off the production line, the Marine Corps took a quick look around and decided it was time to stick a finger in the dike while waiting for the sandbags to be brought up from the rear. The result was an infusion of civilian electronics engineers—they like to be called field engineers—into our electronics organizations. Improvements in operation and maintenance schedules were almost immediately apparent.

The concept of supplementary civilian assistance is not new. During WWII considerable numbers of field engineers were to be found at many levels of command, and since that time a few engineers cropped up in our organizations via contractual action of the Bureau of Ships. During 1951, however, it became readily apparent to the Electronics Sections at Headquarters Marine Corps that it would be both desirable and beneficial for the Corps to take direct control of the program on an expanded basis. The result is, that today, field units as well as depots are enjoying the services of engineers from such reputable concerns as the Philco Corporation, the Raytheon Corporation, Sperry, Western Electric and General Electric.

The services performed by the field engineers has been carefully evaluated and there can be no doubt that they have proved of inestimable value. At depot level, for example, they are active in the continuing program of the rehabilitation of field-weary equipment; they have been instrumental in the development of numerous types of "special application" units such as mobile radar centers, and in some instances they have engineered new test equipment and have evolved simplified testing techniques to facilitate the checking of balky equipment.

Possibly the most direct impact of the program is felt by "the heart of the Corp," the FMF units. The field engineers are leaving a noticeable impression on such type organizations as the Marine Air Control Group, the Combat Service Group and the Service Regiment. In most cases the unit Electronic Officer is free to employ these technical services in any manner beneficial to his organization. And the field engineer, being a free-lance turned loose in a tightly scheduled community,

can arrange his time to encompass all phases of the game from emergency trouble shooting to on-the-job instructions for Marines.

Many a military mind is prone to draw down a dark shade when the word 'civilian' is mentioned; the connotation being that they are a strange breed to be avoided at all costs. However, such stigmatization certainly should not tar the field engineer. Many of them are ex-servicemen who are employing the same skills in civilian life as they did in military. Such men are particularly aware of, and sympathetic to, the thorny problems of field maintenance. And regardless of their background, those engineers who serve with our troops seem to become infused with at least a bit of the pride in our Corps. By and large, the engineers work and play as Marines, and are ready for duty in any unseemly part of the world where they may be needed. There is on record at least one field engineer who *requested* duty in Korea, although at the time he was well dug-in at a choice billet on the West Coast. Prima donnas? No sir!

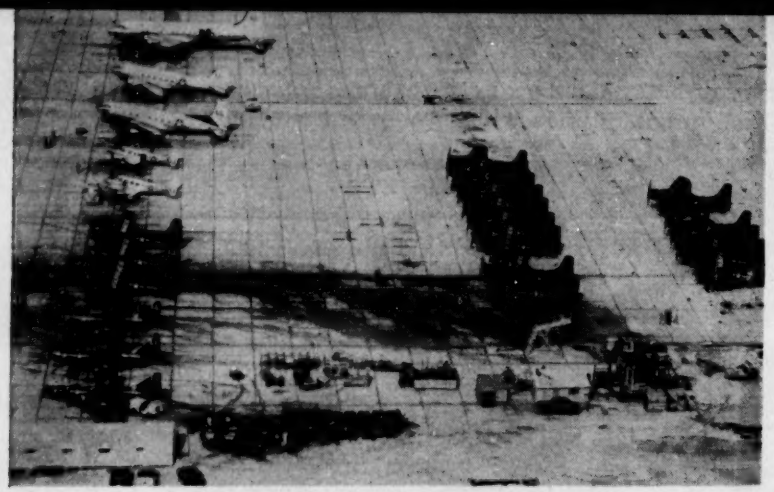
The introduction of an engineer into a Marine Corps unit is a relatively simple process (always with due consideration of the budget, of course). A request may be received from a field commander who has a bad case of erring electrons, or Headquarters may decide that a certain organization needs help in checking its grid leaks. On such occasions the terms of existing contracts are invoked, and an engineer is made available by one of the above mentioned commercial houses to the Commandant of the Marine Corps. A set of orders to duty is prepared and your boy is on his way.

The official orders are so written that the CO has considerable latitude in the employment of his new man within the field of electronics. The engineer himself is accorded the status of an officer, but without the vested authority of command. He has certain commissioned officer prerogatives but it is understood that his working level is that which most benefits the organization. This arrangement works successfully and has definite advantages. The engineer is enabled to work directly with Marine technicians as an integral component of their team and yet he is in a position to talk business with Marine Corps officers on an associate basis.

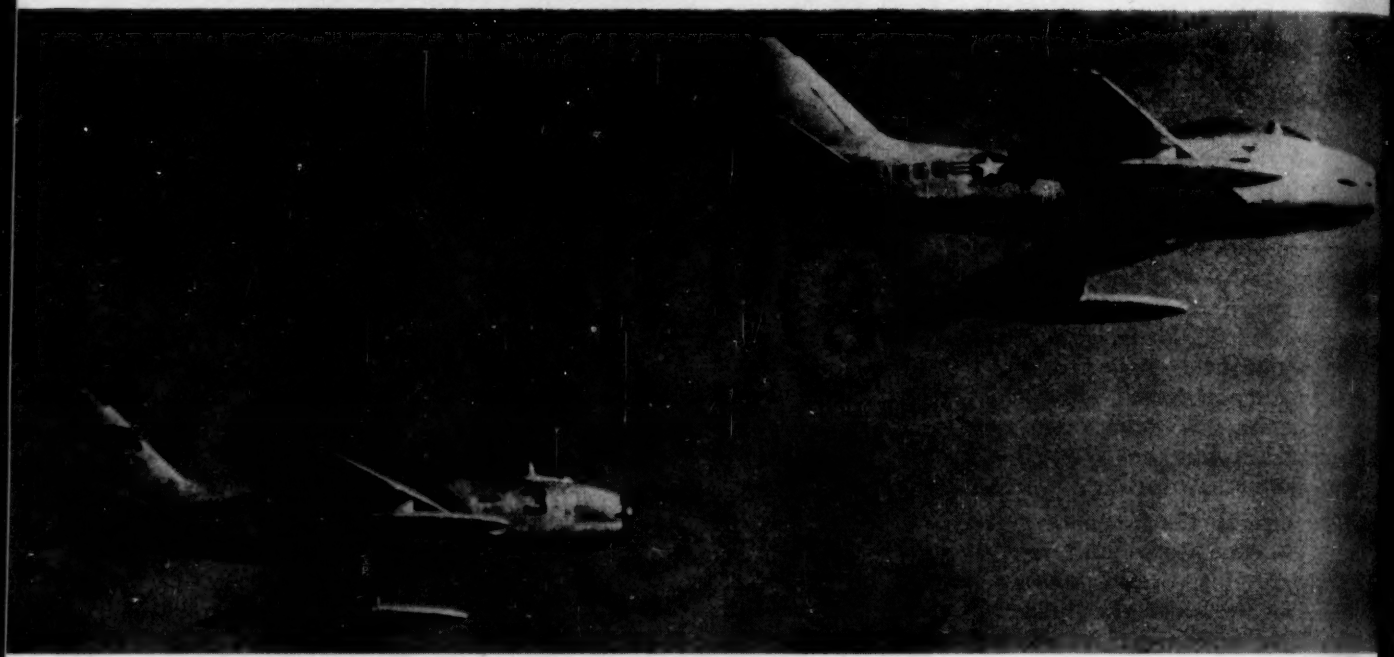
A deal of controversy has existed as to the propriety of supplementing the Corps' lean diet of technicians with the fat of commercial concerns. The very essence of a Marine's doctrine is reliance on himself and on his outfit—and rightly so. But it must be remembered that the Marine's ingenuity in adapting any available tool to his own needs has saved many a situation. The fact remains, and we may as well face it, pros and cons notwithstanding, the Corps, *as well as all the other branches of the service,* is suffering an alarming shortage of qualified electronics technicians. The conditions which occasioned this shortage are not pertinent to this discussion. What is pertinent is that monthly, quantities of increasingly complex equipment are rolling out of our factories and we just don't have the personnel to maintain it. Remedial measures are, of course, in the mill, but until they have developed a full set of biting molars some sort of teething ring must be provided.

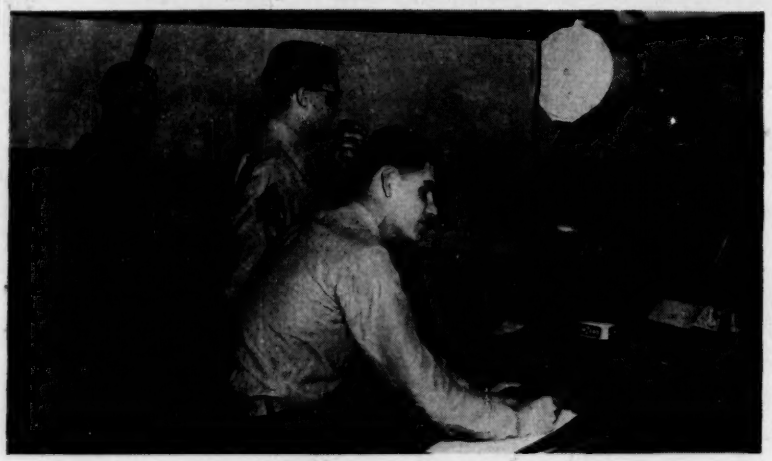
The electronics field engineers provide a partial answer. At the present time the Marine Corps has at least one of these contracts engineers on duty at Miami, El Toro, 1st, 2d and 3d Mar Divs, Twentynine Palms, Cherry Point, Albany, San Francisco, Barstow, Kaneohe, 1st MAW and the C-E Schools Bn, San Diego.

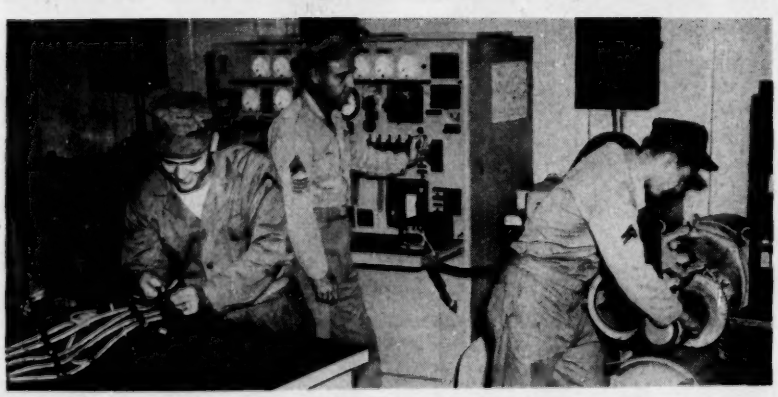
And with the emphsis on guided missiles and electronic fire control systems, all indications are that Mr. Engineer will be with us for a long time. USMC



THE ENEMY WAS SURPRISED WHEN the Marines fought their way out of the Chosin Reservoir. Surprise and new ideas have won many a battle. Many commanders are therefore interested in recent ideas, late developments and new organizations. Although essential elements of information are normally associated with questions the commander wants answered about the enemy, a commander may also want to know the







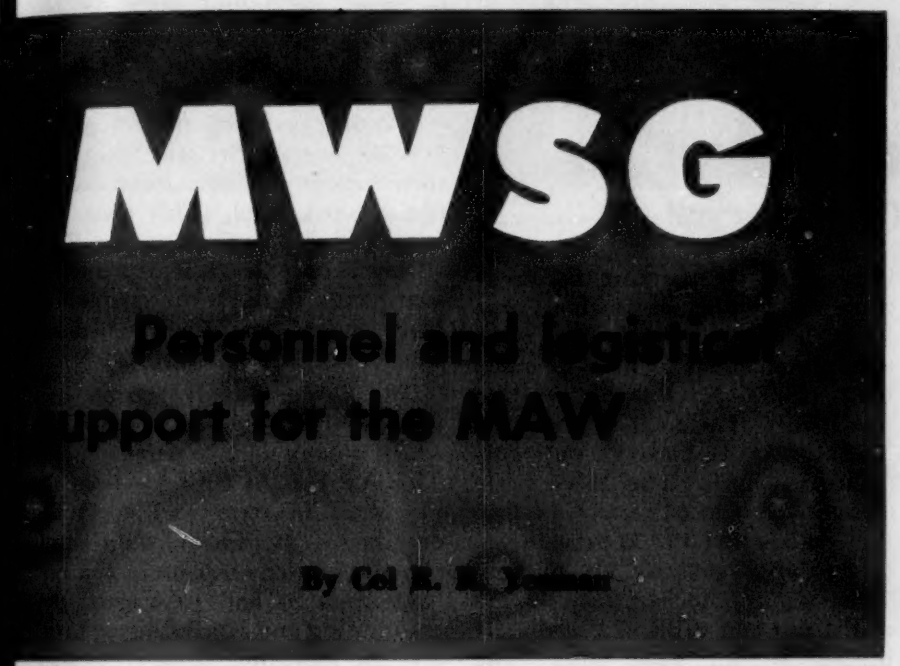
"when, what, why, where and how" with respect to a reasonably new alphabetical abbreviation that has entered our T/O during the last 2 years.

In keeping with the Marine Corps tradition of maintaining maximum mobility with the most efficient and economical utilization of manpower and materiel, a new unit, the Marine Wing Service Group (short title MWSG) was commissioned on 1 July 1953. Soon to celebrate the third anniversary of its commissioning, the essential elements of information concerning the MWSG can be itemized, and its operations evaluated.

Briefly stated, the mission of the Marine Wing Service Group, as specified by the Commandant of the Marine Corps, is to "provide for the maximum effectiveness of attached squadrons in the provision of Wing-level personnel and logistical sup-

port for Wing headquarters and organic Wing units."

The need for such a unit has long existed. As the cost of aircraft has gone up, so has the cost of tooling and repair equipment. It is uneconomical from a cost and weight standpoint to have lathes, bending machines, heat treating furnaces and heavy equipment of this nature in each group when it is more efficient and economical to do this type of work in a Service Group. Marine aircraft squadrons also operate both ashore and on the carriers of the US Fleet at various stages of the tactical situation, and their T/O must be patterned to fit both situations. Our primary interest in these last 10 years has therefore been to make our Marine Corps and its units lighter, more mobile and air transportable.



The first actual attempt at forming such a unit as the MWSG was on 1 September 1944 when Service Command 9 (Provisional), 9th MAW was formed at Marine Corps Air Station, Cherry Point. Being a provisional group, it ran into administrative and supply (particularly fiscal) problems not ordinarily encountered in a regularly commissioned group. Without an authorized T/O & T/E and account number, the procurement of tools, parts, personnel and publications from both Navy and Marine Corps sources are much more difficult in any provisional organization. The inertia of the traditional methods of maintenance and supply support also tended to block progress. This first attempt at a Service Group was abandoned on 7 March 1945 because of the critical need for supplies and trained personnel overseas during the last phases of WWII. In the years that followed that war, several personnel and material conferences were held. The mission of each of these conferences has been to reduce both the number of personnel and the weight of material necessary for the support of our commands.

The Korean war presented the problem next. On this occasion the factors of time, space and distance, soon changed the entire personnel and material structure of the Marine Wing Service Squadron (MWSS-1) of the 1st MAW at Itami, Japan. This squadron soon took the shape of what was to become the present service group—a major repair, casual and supply base, providing support to all the Marine squadrons and groups in Japan and Korea. This again was the result of paring the tactical aircraft squadrons down for mobility and versatility both afloat and ashore. The amount of work accomplished and material handled by MWSS-1 during the first 2 years of this war is almost unbelievable.

In Korea, squadrons were moving around so much, and transportation was so limited, that it became impracticable to take along the complete allowance of material for each squadron.

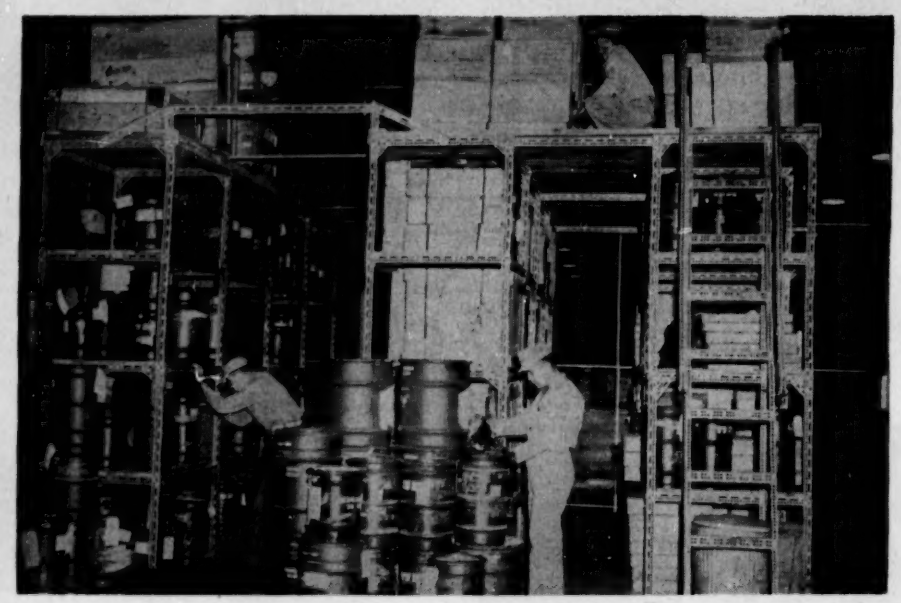
More letters, conferences and studies, particularly a study by LtCol J. F. Cole, written early in the Korean campaign emphasized the need for a MWSG. From this study a recomendation was made to Headquarters in Washington for incorporating this organization as a T/O unit. Further study indicated that in order for it to function properly, it should be established as a Group with Headquarters, Base and Maintenance Squadrons. Co-ordination with the Bureau of Aeronautics brought about the formation of the present service group in each wing. This new group in the Marine Aviation family presented a new concept combining many of the ideas formulated over the years in the minds of several experienced Marine General officers. It also resulted in great savings in the weight, cube and personnel strength of the tactical units.

Now that you know *when* this group was formed, *what* it is and *why* it was necessary, you may like to know *where* the units are located, their composition, and *how* they function.

There are 3 of these groups in the Marine Corps today, one for each Marine Aircraft Wing. They are 1) MWSG-17, an organic unit of the 1st MAW. 2) MWSG-27 of the 2d MAW. 3) MWSG-37 of the 3d MAW.

For control, and division of responsibilities, the group is composed of 3 squadrons; the Headquarters and Headquarters Squadron, the Marine Air Base Squadron (MABS) and Marine Aircraft Repair Squadron (MARS). Headquarters and Headquarters Squadron of the Service Group is similar to a normal H&HS with a few exceptions. In addition to performing the administrative functions for the group, this squadron has the Wing Band, Disbursing, Postal, Casual, Post Exchange and Supply sections attached to it. All of these sections provide support for the entire Wing.

Largest and most important of all the sections in the Headquarters



Supply — parts and fuel for the planes

Squadron is the Supply Section. The support furnished by the Service Group may be compared somewhat with that of the Service Regiment except that aviation support differs quite widely from ground support because of the many types of equipment supported and additional sources of supply covered later in this article. In addition to these sources of supply there are 2 major types of material handled by the MWSG supply section. These supplies are Marine and Navy.

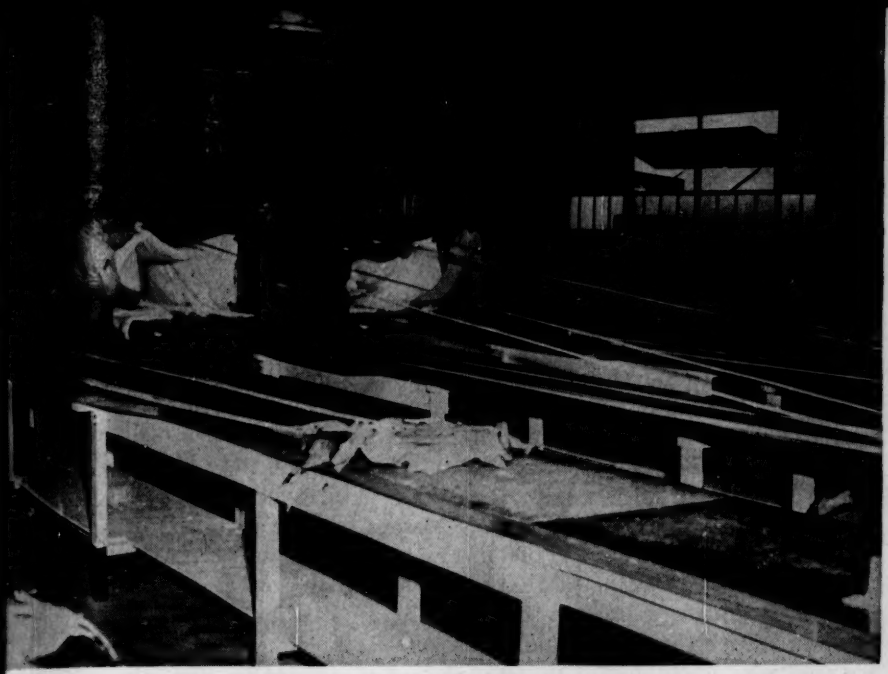
The Marine subsection furnishes standard Marine Corps garrison and combat equipment to all subordinate echelons. The Marine Corps property amounts to approximately 900 items with an inventory value of 1¼ million dollars. This figure does not include those articles valued at $25.00 or less. Since these Marine Corps Supply items are familiar to the majority of us, this type of supply will not be amplified.

The Navy subsection, on the other hand, controls all the supplies and equipment necessary for aviation units to carry out their primary missions. This equipment includes the aircraft maintenance parts; i.e., engines, wings, controls, oxygen and parachutes. The Navy Supply subsection of the group also accounts for aviation gasoline, oil, jet fuel and ordnance. These products are not furnished by the Marine Corps sources directly, but are procured by the cognizant bureaus in the Navy Department. The quantity of Navy items utilized amount to many times the number of Marine Corps items handled. Specifically, there are approximately 53 times as many items (48,000 Navy to 900 Marine line items). The total value of the Marine items is, however, only one-eighth as much. The Navy value amounts to approximately 10 million dollars and the Marine inventory to approximately 1¼ million. These figures do not include the actual cost and value of the aircraft utilized by the wing units. The addition of the present high cost of aircraft would really upset the proportion mentioned above. The accounting and bookkeeping procedures necessary for the control of all these items requires a great deal of work, particularly to maintain various stock levels of supply.

These stock levels of supply are very important in the combat support of the units attached. To give an example of these stock levels, the fighter, attack, air control, helicopter and transport units and the observations squadrons maintain an operating level considered as a 30-day supply. The majority of these supplies are those aircraft parts, better known as Section "B" items. MWSG Supply Sections back up these groups and squadrons with a 60-day stock level. This gives the wing a 90-day level of supply. The 90-day supply level is replenished continually through the established Navy and Marine Supply channels which are many and varied.

The Group Supply Section also includes the Wing Air Freight Unit which is more than its name implies. This Air Freight Unit has been all important in every war, operation or exercise. It provides the control for, and service of, loading and unloading cargo and passengers, the manifesting and scheduling of both, and the short-time storage of cargo when necessary. Additional Air

Disbursing — pay for the officers and men



Parachute loft — life insurance for pilots

Freight Teams may be located at such airfields as may be necessary to perform these services in peace or war.

During one month the Wing Air Freight Unit at Itami, Japan loaded and unloaded 243 aircraft carrying 5,000 passengers. These aircraft carried an additional 750,000 lbs of cargo to Korea. This is the famous air freight unit that handled the high priority cargo including bulk fuel, ammunition, replacement and evacuated personnel and wounded on a 24-hour-a-day schedule during the height of the Chosin Reservoir fighting.

Marine Air Base Squadrons have as their mission the "providing of air base facilities and services for an advanced base, and for those units located thereon, or supplementing of base facilities and services provided by a supporting air station or facility when based thereon." This squadron in the Service Group carries out the normal housekeeping functions of the base squadron of a normal fighter or attack group but has 124 more personnel. This additional number of men handle the increase in the work load required for support of the number of units attached to the wing similar to the transport units which have no base support of their own. The squadron functions embody all the skills and techniques vital to the support of a group in almost every phase of its existence. When operating in the field, in support of the wing group and attached units, this squadron's 17 sections cover every category from base operations to divine services.

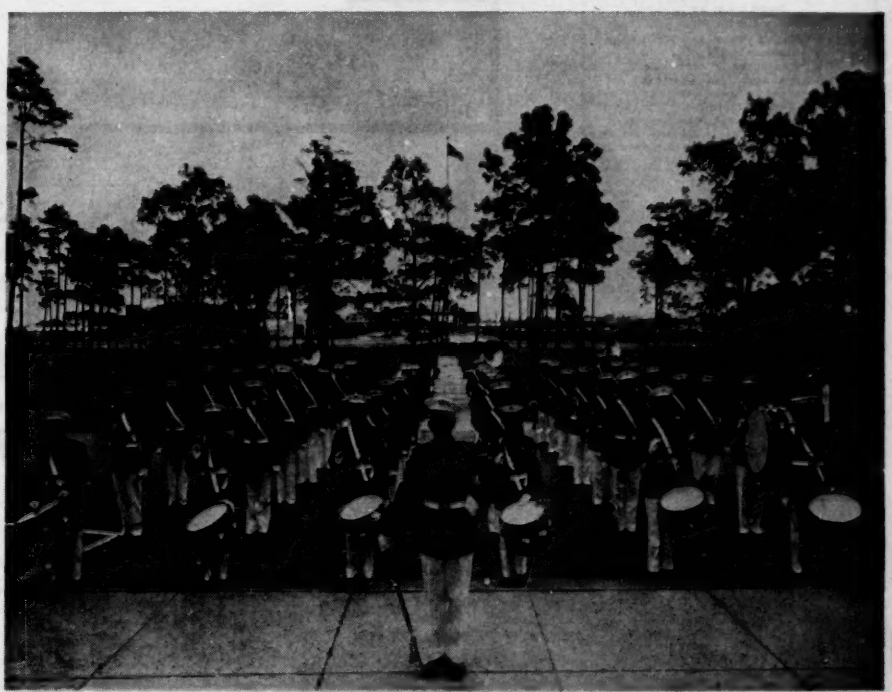
Largest section in this squadron is Motor Transport which might be compared to the Motor Transport Battalion in that it includes the motor pool, automotive repair and heavy equipment unit. This section supports 509 vehicles and provides third and fourth echelon maintenance.

The base operations section has trained men for work in flight clearance, aerology, the air traffic control tower, radar surveillance, crash-crew and fire fighting units. Another important element of this squadron is the camp maintenance section. These are the builders; the electricians, carpenters, plumbers, refrigeration men, water and laundry machine operators, the men who make an inhabitable camp out of a wilderness. There is also the communications section which is so essential to air operations.

The Food Service Section furnishes the galley and bakery facilities. Camp Security contains an integral Military Police and Brig unit. Equally important are the Headquarters, Photographic, Ready Magazine, Ordnance Disposal, POL, Material and Property, Medical and Dental and Chaplain sections.

Last but not least in importance of the 3 sections is the Marine Aircraft Repair Squadron. It is the backbone of the MWSG. Its mission is to "provide wing-level maintenance and repair activity in support of a Marine Aircraft Wing." This squadron is composed of only 4 sections; 1) a small headquarters; 2) a combined material and property section; 3) a wing flight section; and 4) most valuable of all, the aircraft repair section. The wing flight section controls, services and maintains the aircraft assigned to

Band — for pomp and circumstance and recreation hours



the wing headquarters and its aircraft pool. Pool aircraft include various types of replacement aircraft required by the wing units from time to time.

Most important function of the MARS is aircraft repair. For a better understanding of this function the following descriptions of levels of maintenance as outlined by the BuAer are appropriate.

1) "Squadron — Day-to-day line maintenance will be performed by the tactical squadrons. Installation of simple aircraft service changes as provided in kits from the MWSG and which do not require disassembly and functional test of instruments and components in place is considered as the maintenance level of the squadron."

2) "Group — The level of maintenance performed within a group may be defined as that necessary to efficiently aid the squadrons in maintaining a high percentage of availability without reducing the group's ability to relocate rapidly. This work is performed by the Headquarters and Maintenance Squadron (H&MS) of the Marine Aircraft Group."

3) "Wing — The Marine Aircraft Repair Squadron (MARS) is the 'heavy' maintenance and repair unit for the Wing. Groups and separate tactical squadrons will receive their back-up maintenance support from the Wing MARS. Major repairs are accomplished and the services required for the proper support of attached groups and squadrons are available. The manufacture of all items necessary for the accomplishment of the Wing's mission, or for the assembly of change kits for delivery to attached units, will be accomplished at this level. This includes the reconditioning of aircraft equipment and components; screening inoperative, worn, or damaged material plus packing and preservation of those parts beyond repair at MWSG level for shipment to an overhaul base."

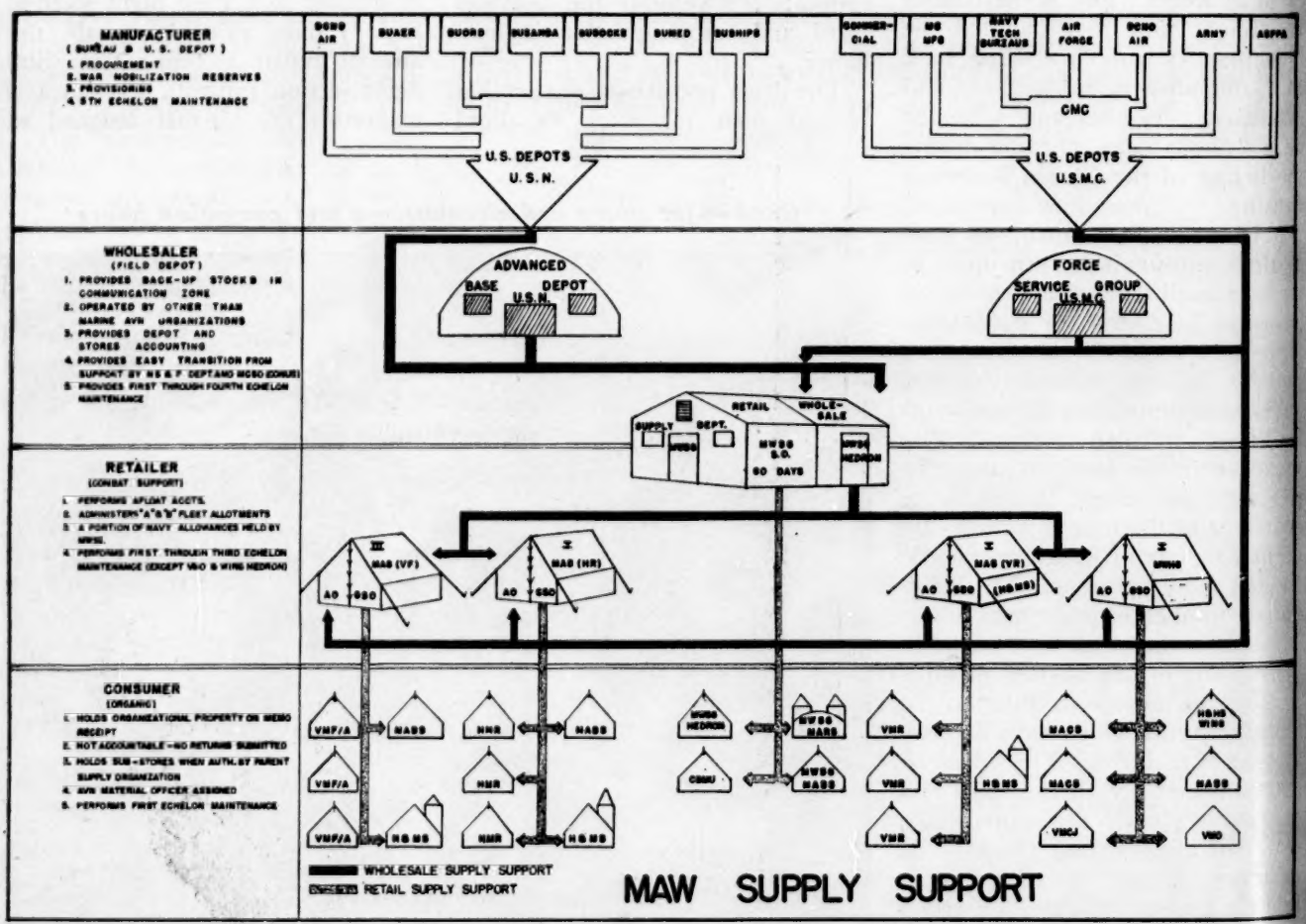
Although there are only 4 sections in the Repair Squadron, there are many shops.

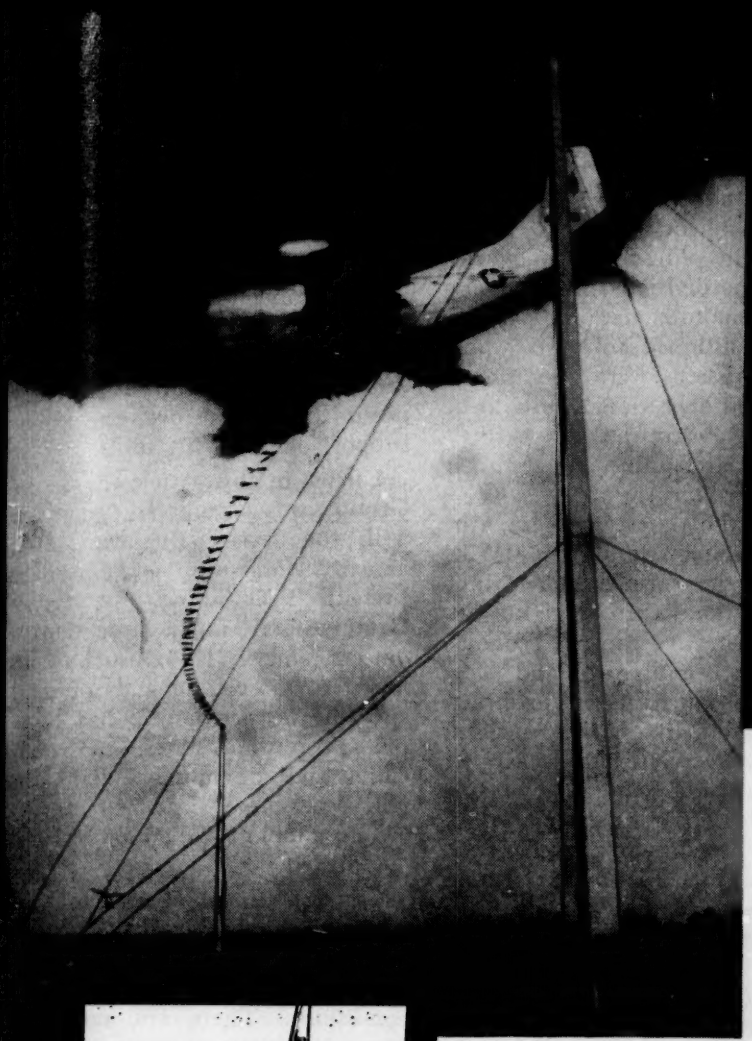
Emerging from their embryonic state with growing pains, the service groups have already proven their usefulness in more than one way. This is the group that takes care of all those odd (often better known as the cats and dogs) jobs which continuously come up in support of the number and type aircraft attached to the Wing. As has been shown, the mission is wide and varying and the accomplishment of the numerous tasks requires the full time work and co-operation of everyone. Full time means 7 days a week, often 24 hours-a-day logistic and repair support.

Logistically, the supply section of the service group is never closed. Issues may be made night and day, day in and day out, to meet the needs of personnel or repair. Transport and other aircraft attached fly the week around delivering supplies and personnel to their destinations during peace or war. Several experimental projects for the BuAer are carried out from time to time.

In the repair line, the outstanding work of MWSG-17 was rehabilitating engines, aircraft and equipment of many types for the Marine units in Japan and Korea, and is well known by most everyone

(continued on page 34)





The Fairchild C-123 was especially designed for landings and take-offs on rough, unprepared fields.

During "Operation Shakedown", the C-123 was subjected to 500 hours of rugged duty under all operational conditions.

FAIRCHILD C-123 PASSES OPERATIONAL SUITABILITY TESTS

Now being subjected to rugged tests for the U. S. Air Force, the Fairchild C-123 Assault Transport has proved it can withstand the rigors of any combat airlift mission and win an "A" for top performance!

Shown above is an actual photograph of a C-123 making a short field landing downwind over a 50-foot obstacle on a sandy, deeply rutted strip at Eglin Air Force Base. During other tests the C-123 was flown in simulated front line combat airlift missions and proved its durability by landing and taking off on extra rough terrain in the shortest possible distance.

The Fairchild C-123 is literally built to "take it tough" on any assigned Air Force mission . . . another example of the rugged, hard-job dependability built into Fairchild utility and logistics aircraft.

A Division of
Fairchild Engine and Airplane Corporation.

FAIRCHILD

AIRCRAFT DIVISION • HAGERSTOWN, MARYLAND

. . . WHERE THE FUTURE IS MEASURED IN LIGHT-YEARS!

who went through action in that area. Necessary checks, service changes and bulletins were performed on the above aircraft and engines prior to delivery. With a few exceptions all reciprocating and jet engines were uncanned, built up and mounted on flyway stands for delivery to the supported units. All the old engines were returned to MARS-17 for preservation and canning for shipment to overhaul bases in the states.

In August 1953 MARS-17 was given the mission to send a detachment of personnel to Atsugi, Japan to assist Fleet Aircraft Service Squadron 7 to ready approximately 20 Douglas attack aircraft in the Navy fleet aircraft pool for delivery. These aircraft were desperately needed as replacements to keep units in Korea up to strength. Group level maintenance by MWSG-17 was also performed for the many transport aircraft stationed at Itami. An overhaul program for propellers was established at a distant Air Force facility after which they were assembled locally for installation. The manufacture of the electrical change kit for the Fairchild Packet also proved to be a very interesting accompliishment.

During September 1954, Aviation Mechanics of MWSG-37, then at Miami, spent many additional around the clock hours repairing, and installing a major landing gear change on all aircraft of Marine Attack Squadron 331. This was in compliance with a request from Commander Aircraft, Atlantic Fleet to check all the landing gear of the Douglas attack-type aircraft prior to further flight and required immediate repair if this squadron was to meet its carrier commitment. On November 9 another priority modification and change was required on 103 attack planes to make them safe and ready for TRAEX 2-55. All 4 attack squadrons of MAG-31 were committed for this exercise and MARS-37, on a 24-hour schedule, completed 30 aircraft in the first 11 days and 30 aircraft a week thereafter. The entire modification was finished in 1 month.

We all know that the greatest factor which influences the Air-Ground Task Force is its amphibious or vertical envelopment mission. It must be adaptable to embarkation, ship-to-shore movement and to operations ashore. Because of this amphibious mission, there are limitations on the organization and equipment because of shipping restrictions and difficulties of landing heavy equipment.

Under the old concept of service support, the division and wing supply and maintenance responsibilities were assigned to units whose primary missions were operational. This caused operational units to be less mobile and in many cases interfered with accomplishment of their primary missions.

Under the latest concept, the Service Regiment and the MWSG centralize the supply and maintenance functions, thereby giving better administrative control, economy of personnel, equipment and effort as well as much more flexibility. Supply and maintenance functions are so closely related to each other that each is dependent upon the other. Close co-ordination of these functions provides greater efficiency.

In a combat situation, particularly in an Air-Ground Task Force, the Combat Service Group and the much smaller Wing Service Group work together supporting their respective units, MWSG again giving personnel and logistic support for the wing headquarters and organic wing units. Both the Wing and Ground forces need assistance in the unloading operation during an amphibious landing of the Task Force. The Shore Party, therefore, has a major problem in keeping the beaches clear and equipment moving to the respective dumps and in the expeditious handling of the tremendous amount of ammunition, fuel and other combat equipment during the landing phase. All units, not a primary part of the assault, may be called upon to help the Shore Party; however, labor parties are normally furnished from replacements.

It is doubtful that the MWSG would arrive in the objective area in time to be of great assistance in the initial ship-to-shore movement. If this group does happen to be one of the non-scheduled units to be landed prior to general unloading, it will assist in every way possible. There will be a definite need for personnel and trucks at this stage and all available assistance will be necessary. Certain aviation officers and technicians are available for assignment to the Shore Party during the initial landing phase to advise in the handling, storage and identity of aeronautical supplies and ordnance. These men are extremely valuable and are also required for aircraft operational support once the wing and its aircraft are ashore. Once ashore, MWSG will also assist in the establishment of aviation dumps and, as soon as tactically possible, will take over the logistic support of the Wing units.

Earlier in this article the Service Group was compared somewhat with the Service Regiment. It is actually not quite as large. The present T/O allows the Service Group a total Marine Strength of 98 officers and 1,217 enlisted. Compared to most commands of equal size, the Service Group has, as an old expression states, too many Chiefs and not enough Indians. The Navy personnel attached to this Group amount to 26 officers and 49 enlisted.

Generally speaking the T/O has been reasonable and satisfactory during the formative stages of the Service Group under peace-time conditions. There are, no doubt, many different opinions on what the strength of this relatively new organization should be. Recommendations for several much needed changes have already been made. It is believed that the Service Group has been built on an excellent foundation, has a good concept, and will continually improve in its service to the aviation units it supports.

In conclusion, the MWSG is an organic logistical support establishment designed to make the Marine Aircraft Wing self sufficient once the Wing has been established ashore or in a forward area complex. Like other support agencies its primary purpose is to relieve the tactical commander of most of the logistical details for support of his tactical forces operating in the field.

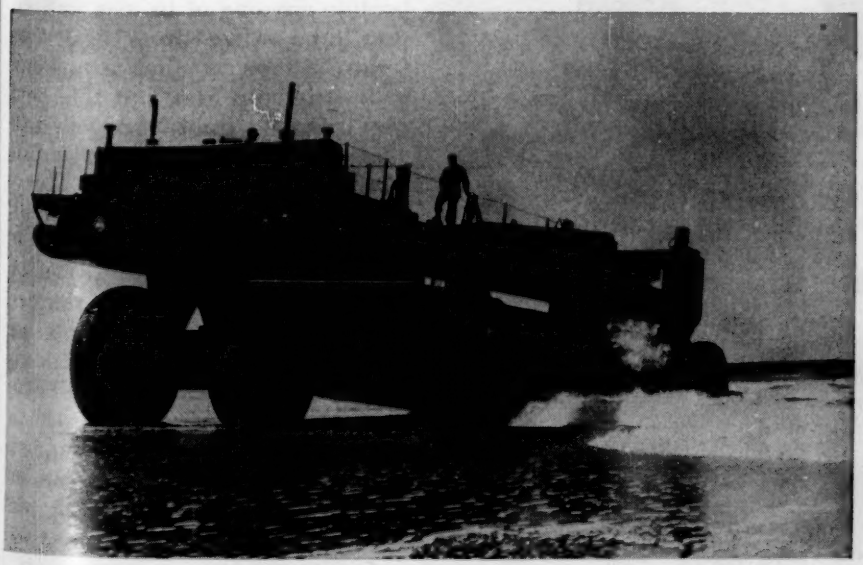
General Lemuel C. Shepherd Jr., while Commandant of the Marine Corps, once said "our ability to operate effectively with the Army, Navy and Air Force as we have in Korea . . . is essential if we are to give a full dollar's worth of performance for every dollar spent on the Corps." USMC

in brief

The Army after more than a year of research and testing has developed a new course in basic rifle marksmanship known as *Trainfire*. The new concept in training began in 1953 when Mr. Howard C. Sarvis of New Meadows, Idaho, wrote a letter to President Eisenhower expressing his ideas on rifle shooting. He indicated that military shooting was not as good as it could be and that something should be done about it. In the program 3 basic principles are used: the combat rifleman's targets rarely appear beyond 300 yards; his targets consist of simulated enemy personnel; and his effectiveness as a rifleman depends on his ability to neutralize individual targets.

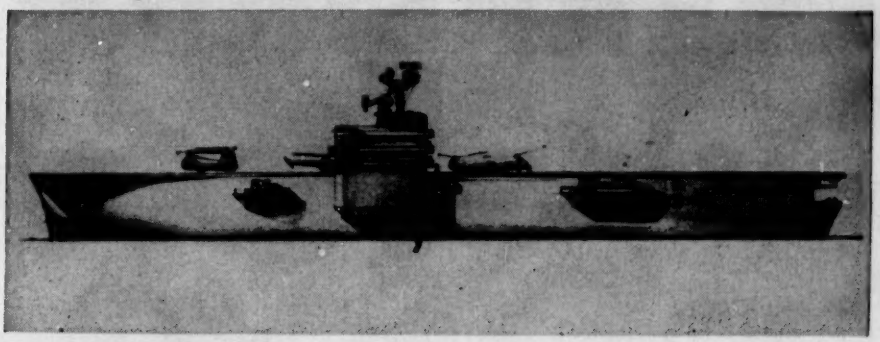
LtCol A. M. Kamp, Jr, USA in an article *Trainfire* in the March *American Rifleman* gives the complete story of the modified basic marksmanship training course.

The landing craft retriever, a new vehicle designed to recover broached landing craft (below), is an intricate arrangement of hoist, wheels and engineering power which straddles a vessel and lifts it from the water. Engineered and constructed by R. G. LeTourneau Inc., it weighs 101 tons, is 4-wheeled, diesel-electric, self propelled and has operated in 8 feet of water. It is capable of picking up the damaged craft and climbing grades as much as 20 per cent. Designed to Army Transportation Corps specifications it may someday replace the familiar jeehemey.

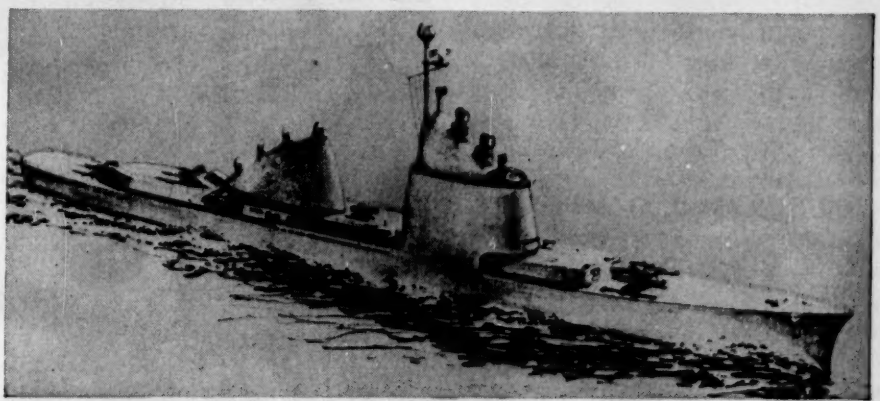


A radiowave "grid" system that can provide a continuous, all-weather flight position picture for helicopters, other aircraft, seagoing vessels and mobile ground units will be tested by the Army in southeastern Arizona. The "Decca Navigation System" was developed in England during WWII and is now in use in Europe.

The Signal Corps now has a hand-held television camera and back-carried transmitter which a soldier-scout can use to send battle pictures to his command post. This unique equipment has been nicknamed the "creepy-peepy." The camera weighs only 8 lbs and the transmitter complete with power supply scales 47 lbs.



An artist's conception of a Navy Helicopter Assault Carrier is shown above while the "Salu" type nuclear-powered guided missile cruiser appears below. The ships have been requested as part of the 1957 Naval construction program. The cruiser will carry a number of multiple missile launchers for varying ranges and capabilities. The carrier will operate with amphibious task forces and is designed for landing assault troops by helicopters.



Retired Marines now have their own "scoop" sheet containing the latest information on regular and retired Marines. Entitled *Newsletter for Retired Marines* it is issued by the Commandant.

Distribution of the Korean Service and the National Defense Medals to the next of kin of deceased Marines has commenced, Headquarters Marine Corps has announced. The awards are being issued automatically to next of kin and submission of an application is not required. Headquarters also stated that distribution of the medals to eligible personnel will be effected by local commanders in the field. Complete information is contained in MC Memo 94-55.

A new bombing and navigational system of unprecedented reliability developed by IBM will be installed in the Boeing B-52 Stratofortress. The new system was originally conceived by the Air Force's Research and Development Command. The crew employs the navigation equipment to guide the plane to its destination. Then the system automatically carries the plane through its bomb run, responding to corrections. The flexibility of the aid permits its adaption for use in other advanced bombing planes.

NO PLACE FOR WEAKLINGS

By LtCol R. E. Casey

There is a time in all battles when the men on both sides are exhausted. It is the man who can hold on longest and who fights with the greatest determination who will win. Wherever we may be destined to fight, our training should be based on physical fitness of all personnel. Tactical and Technical Trends, War Department, Washington, DC, 1943

THE RELATIONSHIP OF PHYSICAL fitness to combat performance has been expounded so often that you would assume every man who might possibly be required to go into combat would get and keep in the highest possible physical condition. This is particularly applicable to Marines because any one of us may well expect to be ordered from his desk or from the shop to climb mountains, endure intense heat and cold, and still fight and think effectively as a rifleman or troop leader, regardless of his specialty. This is no starry-eyed concept of our combat readiness; we saw it happen in 1950. Many men who were surprised by their reclassification as riflemen couldn't keep up in combat because they were not physically fit. For example, during combat in the Pusan perimeter, almost half the men in the rifle companies of one battalion were prostrated by heat exhaustion in one day. The magnificent performance of the Corps in this thea-

ter was attributable to the men who were strong enough to stay on their feet and fight, not to those who were recovering from their lack of conditioning at aid stations—such men were a liability to their Corps.

The conversion of civilians into tough, trim, fighting Marines has always been a prime concern of the Corps. This is becoming of even greater concern than in the past, the cause being the continued regression of the muscular development and stamina of our youth. This problem is of such proportion that it has received the personal attention of President Eisenhower himself. During the period June 1948-June 1955, 52 per cent of American men (age 18-25) examined for induction were rejected on physical and mental grounds. In tests of muscular development recently conducted, 50 per cent of American youths failed, whereas less than 10 per cent of European youths failed. We cannot assume that Marines will be in condition to fight after they complete basic training; we have to follow through, to insure it by special physical training. As an example of the condition of our youths, consider the average group of officer candidates reporting to the Marine Corps Schools. As a whole they are fine-looking, clear-eyed, alert, well-fed young men. At the beginning of the course they take a physical evaluation test which requires them to accomplish certain physical exercises in order to determine their strength, muscular co-ordination and stamina. Their performance is all you could expect of people, who as youths, ride to school, ride home, sit in school and sit at home watching television, eat plenty of rich food and consider themselves sports enthusiasts by being spectators instead of participants. Some candidates cannot chin themselves once or do a single push up or sit up; a considerable number collapse before they finish running and jumping 300 yards of hurdles; others cannot lift themselves over barricades or support their own weight on bars; many give up on some tests after only a few tries.

In spite of progressive physical development for 10 weeks, there are men who are still not able to complete marches of from 8 to 15 miles in length, because of physical exhaustion and heat exhaustion. It is

no accident that the majority of such men are also deficient academically or in leadership ability, for physical and mental ability are interlocked. A vigorous body and clear, sharp thinking go hand in hand. By contrast, not one of the instructors at the Marine Corps Schools fell out on any of these marches, in spite of the fact that they are older, carry the same load and expend more energy than candidates in controlling formations. The difference — they had kept themselves in good physical condition and were also mentally conditioned to carry on in spite of physical discomfort.

The tough, well co-ordinated men who do complete the 10 weeks of training are well on their way toward being completely fit. These new officers will continue their physical development at Basic School, but then where do they go? Unless they join a part of the Fleet Marine Force which has considerable field training, they will probably wind up right back where they started—fat or weak, or both. Why? If physical conditioning is so important, why don't we do more to insure it?

We have already taken certain steps in the proper direction. Embedded in all standing orders on training is a directive that physical training will be stressed. Marches are required, "where practicable." We have encouraged and supported post and intramural athletic teams which themselves have contributed much to our overall physical conditioning program. In a recent letter, the Commandant of the Marine Corps not only encouraged an increase in voluntary athletics, he implemented his desires by providing an abundance of gymnastic equipment.

But let's look at the other side of the coin. The Commandant has stated, "A Marine who is not physically fit is not ready for combat with the enemy." How effective has our physical conditioning program been? You don't have to look far for an answer. Field officers with jowls and double chins, younger officers with their uniform buttons popping open around the waist, noncommissioned officers with their bellies hanging over their belts, privates who couldn't double time to the main gate, much less go into combat — you can find them. After all, no one is really giving anyone too much Hell for getting soft and fat these days. Until recently, the failure of an officer to fire the rifle for annual qualification was of such importance that he had to write an explanation to the Commandant. But, although physical fitness is even more important to an officer's combat readiness, overweight officers have not been required to explain what they intend to do about their condition. Less conspicuous are those who diet spasmodically, but do not take physical conditioning; they are merely slender and soft, instead of fat and soft. If your observations are honest you cannot help but come to the conclusion that in too many cases our physical conditioning program has been only partially effective. It

is most appropriate that we determine what can be done to improve it.

The first step is recognition of the fact that the spirit of training directives is not being followed. In two recent letters to commanding officers, the Commandant reminded them of their responsibility for developing effective programs. The concept of what constitutes an "effective" program varies considerably, however; many commanding officers are themselves of such poor physical appearance and condition that they are reluctant to provide impetus to a program which would point out their own personal physical inadequacy. Others, though capable, are not convinced of its relative importance. Why should they be when they know inspection teams, sent thousands of miles, in some cases, will determine whether their men have a full allowance of clothing, salute and drill properly, know general orders, but will not check the effectiveness or even the existence of a physical development program? Generally, the effectiveness of physical training programs depends directly on the amount of personal interest the commanding officer has in it. It is certainly paradoxical, but true, that many officers who would charge like a tank to comply with other orders of the Commandant to the fullest, are ineffective in regard to his directives on physical development.

Another fact to be faced is the apathy, even antipathy, of most Americans, including Marines, toward physical exertion. Only a relatively few Marines will carry out an active, progressive conditioning program voluntarily; it is hard work and most of us are not so inclined unless the need is immediate. Any type of excuse will suffice, but among the most frequent is the plea that there are no facilities available. One prick should puncture this balloon of an excuse. At most large posts there are adequate facilities for playing handball, badminton, basketball, tennis — games which demand good condition—and there are obstacle courses. They are not often in use, and when they are, it is usually by the same old faithfuls. The fact is that fancy facilities are not needed. If a man is in earnest about conditioning, cross country trails and roads for double timing and marching and a space for push ups, sit ups and other such exercises are all that are needed.

. . . fancy facilities are not needed

Another excuse is that time is not available. This would appear to be a valid one, particularly in some "work shops" where only a few of the hardiest dare steal away from their desks. But time has been made available to most Marines in the form of an afternoon off a week. The trouble is that usually the enlisted men head for their bunks, the junior officers head for their dates, and the senior officers head for the super markets with their wives, although a few do try golf — a good way to stay in fair condition if played frequently but hardly for getting into top shape.

Practically all Marines will pay lip service to the importance of physical conditioning, but somewhere our system of directives has failed to motivate us sufficiently to achieve the maximum possible results. Motivation is needed. A specific directive from Headquarters Marine Corps, applicable to all Marine officers and staff noncommissioned officers, which will prescribe standards, establish recognition for satisfactory performance and penalties for unsatisfactory performance would provide the needed motivation. Cries of "negative approach" will immediately be raised, but what we need is results, not a prolonged stalemate. Let dissenters put forth their own ideas on how to get results.

Along with the directive there should be supervision in order that we may know whether we are all "fit for combat" and to determine where improvements in the method are needed. Performance tests (for a suitable test see FM 21-20) should be administered periodically and the results recorded on fitness reports, record books and officer qualification records. This data could then be a yardstick in determining whether a Marine can physically lead men in a combat unit. Certainly outstanding physical condition would be a prerequisite for command at company level, where this type of leadership must be demonstrated almost daily. Such a report would also preclude the often meaningless and unfounded entry of excellent and outstanding "endurance" and "military bearing" given on many fitness reports.

This data should also be a consideration in the promotion of Marines and officer assignments. The Detail Branch at Headquarters Marine Corps, in filling a billet for an aide, inspector-instructor, attaché, recruit drill instructor, or any other assignment requiring that the Marine be of good, trim, military appearance, has to constantly consider the Corps' reputation and the service wide skirmish with softness and obesity. The mental picture of the representative type Marine which we force on the unwary public has always been the same — lean, trim, tough and, with the exception of uniforms, unchanging through the

years; we have yet to picture a Marine on a recruiting poster with a profile like a kewpie doll. Considering these requirements, it is not assertion, but fact, that Marines who don't measure up are to a considerable extent unqualified for unrestricted assignment. In many cases, through their own negligence and excesses, they have imposed a limitation on their availability for various types of duty and on their efficiency. In fairness to Marines who do keep fit, this factor should be considered in promotion procedures.

It was stated previously in this article that time for conditioning had been provided, but the purpose of this statement was to show that the time allowed was not being used for voluntary conditioning activities. In all fairness to many Marines, it may be stated that the circumstances of their day-to-day existence, duty and otherwise, has not always been conducive to staying physically fit. In fact, this could be the understatement of the year. It is easy to observe that the living conditions which are having such a debilitating effect on the physical well-being of our civilian population have encroached on our service existence. Each Marine we put behind a typewriter or in any billet that denies him normal requirements for physical exercise while performing his duty, has his problem of keeping fit aggravated. Each year a greater number of Marines are living the sedentary lives of civilian office workers, far from their initial concept of a fighting Marine's existence. Thus we find our service, in many cases, actually assists the regression of physical fitness.

For example, no time has been specifically provided for supervised physical conditioning in our advanced service schools. Yet, there we have the opportunity to fully impress our own officer leaders and those of other services and nations of the seriousness with which physical fitness is taken in our Corps. There are other "work-houses," such as Headquarters Marine Corps, where the conscientious Marine is torn between the desire to leave the office for exercise and the knowledge that this will leave some work undone that day.

If physical fitness is an essential ingredient of our state of readiness, then it should be considered as required training, not something to be accomplished in our spare time after hours. It is almost impossible to avoid deterioration of physical condition unless a daily effort is made. Considering that 50 to 60 minutes of exercise and vigorous games are needed daily, 25 needed to change clothing and arrive at the training facility, one hour and a half should be allowed for most activities. There are many Fleet Marine Force units, however, whose routine of field training provides adequate conditioning for their men; no special time need be scheduled in such units. But all other Marines, those at Headquarters Marine Corps and down the line, must be provided with a well-planned program of physical training and time to carry it out. Unless all of us are ready for combat now, we're fooling ourselves about being a combat-ready Corps, a Corps which must depend on posts and stations for fillers in the event of mobilization.

Well, there is the problem and a recommended solution. Here's a summary of the recommendations:

a) Establish standards of physical performance for all Marines.

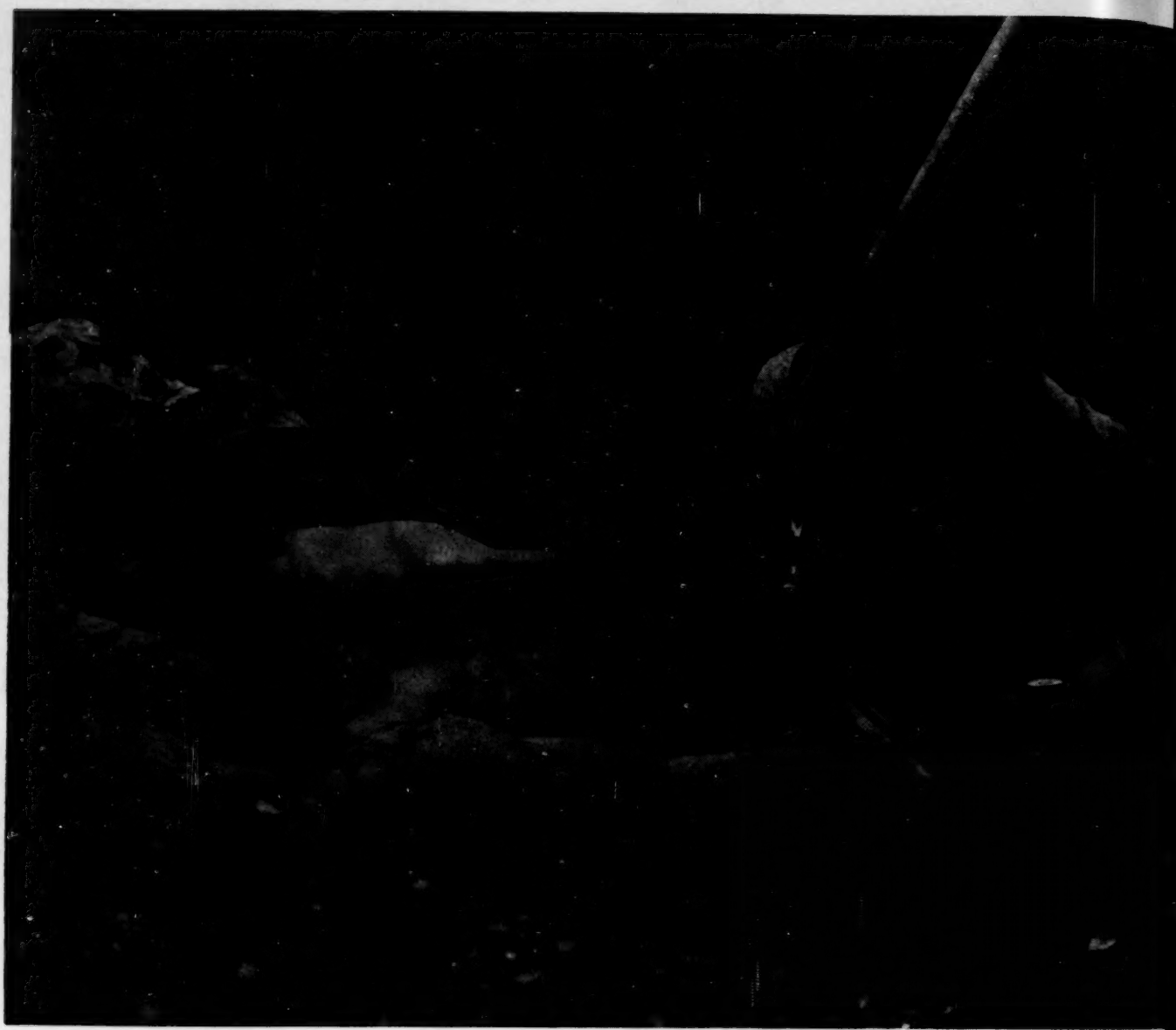
b) Schedule a daily period to be spent on physical conditioning in order to meet the standards.

c) Insure that these standards are met by means of tests, reports and supervision, including corrective action where necessary.

This old Corps of ours has been in many a battle in the past 181 years and has always come out on top of the heap. These battles were won by brave, well trained, determined men who had the physical as well as the moral strength to fight to the finish in spite of heat or cold, sleepless nights followed by long, exhausting marches. But in nearly every combat unit there have always been those who fell out on the march, who collapsed carrying needed ammunition to the fighters, who lacked the strength and moral fiber for the last yards of the assault; these have caused a telling reduction in fighting efficiency of their units.

If the past is any indication of the future, our last battle has not been fought by any means. The concepts of future battle by our most qualified minds foretell of even greater demands in physical ability and endurance, with a probable enemy every bit as tough and ruthless as any we have ever faced, with a penchant for attacking rear areas as well as front lines. When that next battle arrives the decision may well depend on the ability of every Marine in the theater, regardless of echelon or specialty, to carry his own load to the front and to make the final assault with strength and determination. In such a battle there will be *no room for weaklings.* USMC

. . . every Marine, regardless of echelon must carry his load



By MSgt W. L. Vick

Put the 75 recoilless in its proper place — on our supporting weapons team

I ONCE HAD A FRIEND WHO PLAYED quarterback on our high school football team. He was an outstanding quarterback and made quite a name for himself, but upon entering college, the coach put him in the line as a guard. In a few weeks he was out of the line-up and on the bench. I'm sure you would agree that the coach lost a good player because he didn't put him in the right position.

I believe the Marine Corps has done the same thing with the 75mm recoilless rifle. While pulling duty with Weapons Company, 8th Marines at Camp Lejeune in 1947 we received our first 75. At that time everyone seemed impressed with this new weapon, and such statements as; "How we could have used this weapon on the beach at Saipan" or "This would have really saved the day used against the emplacements at Iwo," were heard frequently. But now the 75mm is rarely mentioned. So the question comes to my mind, do we have a good weapon playing the wrong position in our supporting weapons team?

Before going any further, let's familiarize ourselves with the weapon. The 75mm recoilless rifle M20 weighs 114.5 pounds, very light when compared with other weapons of anywhere near this large a caliber. It is normally mounted on the heavy machine gun mount, which weighs 53 pounds, but since it has no recoil it can be fired from almost any type mount. And with a total weight of only 167 pounds four men can pick up both gun and mount and run with it. The gun has a maximum range of 7,200 yards. Sighting equipment for the 75mm consists of a simply constructed direct-fire sight, which is rarely used, and an excellent unit sight designed for in-

direct and long-range fire. This sight was used almost entirely by my section and proved to be both sturdy and accurate. Ammunition for the 75 is issued in the form of complete fixed rounds, each weighing about 22 pounds, the projectile weighs 14 lbs.

The 75's position in our present T/O is that of anti-tank defense. There is one platoon of 75s in each Regimental AT Company. Each platoon has 2 sections of 2 squads each. This article is not suggesting disbanding or changing the AT Company, but working with that organization in Korea, I saw the ideas expressed in this article actually used. As a leader of a section of 75s I spent most of my time attached to one of the battalions and, for all practical purposes, functioned in the role of infantry support.

Therefore, I am suggesting building a new organization around the 75 and give it the primary mission of *infantry support.*

This new unit would be a platoon of 75s. The platoon would consist of 3 squads of 8 men each plus the squad leader, a platoon leader and a radioman equipped with the AN/PRC 10. The radio is necessary to allow mobility yet maintain contact. Mobility is required to overcome the 75's one big disadvantage—the back blast. One of these 75mm platoons would be in each battalion weapons company.

In an attempt to prove my point, I would like to place before the reader some facts that come from my personal experience and knowledge of the weapon. The Korean war was the first action in which the 75mm was employed by the Marine Corps to any extent. Therefore, I must draw my examples from my experiences with the weapons there. Having served with the 7th Marines in both South Korea and North Korea, in summer and winter, I feel sure we encountered most of the weather and terrain conditions needed to prove the weapon's overall effectiveness.

At this point I would like to relate some of my section's experiences in Korea as examples of just how well the 75mm is adapted to infantry support.

In the early spring of 1951 we were attached to the 1st Bn operating in the Hoengsong, Wonju area. Moving with the Bn CP, we were on call to move in and support any company that might need us. The battalion was assigned a very large hill mass as an objective. A couple of hours after the troops had jumped off to take the objective we were called forward to knock out a cave that was in the route of advance. Taking position on some high ground from which we could see our target, we fired our first round at an estimated range of 1,500 yards. Our first shot was about a foot high. Using just a touch of Kentucky windage, the gunner put the next 2 rounds right in. You call that good shooting? When I reported back to the battalion commander expecting a "Well Done," he asked "what in the Hell happened to that first round?"

Later that day as the forward elements were approaching the crest of the objective, they were pinned down by machine gun and small-arms fire from emplacements in a wooded area running along the crest of the hill. We were called to open fire on that area. Unable to see the emplacements we fired our first couple of rounds into the wooded area. A mortar platoon FO with the unit pinned down called back, volunteering to direct our fire. He moved our shots back and forth across the area, at times calling them in so close to his platoon that fragments from our shells fell on them. After about 10 rounds most of the fire was silenced and the platoon moved forward to secure the objective. The entire mission had been fired at ranges of about 1,000 yards.

On another occasion while operating with the 3d Bn, my recoilless section was called by "G" Company to knock out 3 emplacements that were holding them up. At a range of 1,300 yards we fired 5 rounds, ceasing fire on word from the CO of "G" Co that the emplacements were destroyed. Again a lot of the credit for the good shooting goes to the fire direction, because at that range, we at the guns never saw the emplacements.

These are only 3 of many such infantry support missions that proved successful. In most cases the units we were supporting didn't know what type weapon was firing the mission, therefore the 75 didn't receive its due credit. With these examples in mind, think of the role this weapon could play in the amphibious or airborne assault. Because of its light weight it could go on the beach in the third or fourth wave. How many times in the past could a 75mm weapon have been used on the beach in the early hours of the assault? Because of its back blast, the 75 is not very good as infantry support at night. So, at night it could move into its secondary mission of antitank defense in the battalion zone, going back into its primary role at daybreak.

When operating over level terrain the guns can be mounted on the MG cart. Thus mounted, the weapon is very mobile and as accurate as on any other mounting.

An example, just north of Sudong, while attached to the 3d Bn, my section was moving along the road as part of the point. Our guns were mounted on carts to allow us to keep up with a fast moving unit from Div Recon Company. Just as my number one gun rounded a sharp bend in the road, the word came back "Tanks, AT up." About 100 yards up the road we saw our first T-34 tank in the Korean action. It was backing out of its cover position in an effort to get up on the road. Normally we would have removed the guns from the carts, as we had never fired from them, thinking of the cart only as a means of transporting the weapon. But in our haste to get there and fire a few shots at a real live tank we left the gun on the cart. At the time we didn't know it, but in our haste we also passed within 25 yards of a well camouflaged T-34 just to the right of the road.

Our number one gun went into action firing on the tank we had first spotted. It had no sooner been knocked out when further up the road 2 more tanks were discovered. One of these was put out of action by rocket fire from a Corsair, the other was knocked out by the 75mm. The entire action was over in about 20 minutes; all 3 tanks were ablaze and the crews were either dead or captured. About this time all Hell broke loose back up the road, where our number two gun had found the camouflaged tank. Having stopped

to remove the gun from the cart, so they could carry it out into a river bed on our left flank, someone laid his rifle against what they thought was a pile of trees and scrub. But when the rifle fell through against a metal object, the Marine removed some of the scrub to see what he had found. Needless to say he got the hell out of these in a hurry and yelled, "TANKS." The squad leader knew they were too close for safe firing, but fearing they didn't have time to move back to a safe distance, opened fire. After 3 fast rounds into the side of the tank at a range of about 25 yards they ceased fire when the crew came out with their hands held high. This action proved one point, the 75mm was capable of knocking out a tank. There had been much doubt along this line, as some units had written reports stating that, in their opinion, the weapon could not stop a tank as large as the T-34. I might add, there were other units involved in this action but being busy myself I am not sure just what parts they played.

Now may I present my last experience to serve as an example of the 75's mountain climbing ability. The 3d Bn, 7th was undoubtedly impressed with this ability, as they had us setting up on some of the highest hills in Korea. One such case took place on the move out of Yudam-ni. My section was part of the 3d Bn rear guard. About 2130 one night I was called to the Bn CP and told to take my 75s and as much ammo as we could carry, up to "I" Company. "I" Co was occupying a position at the very crest of an extremely high and rugged mountain and there was doubt that we could make it by morning. But they were having trouble with some emplacements 200 to 400 yards to their front and Battalion thought it well worth the try. Taking both squads but only 1 gun, allowed the 2 gun crews to relieve one another carrying the gun and gave us more ammo carriers. We reached the top just before dawn. Unable to contact the company as they were under attack, we set up on their right to await morning. As soon as it was light, 3 of us started over to find the CP. But upon arriving at the position we found that they no longer owned that property and in their stead were the Commies. Returning to the gun on the double, and undiscovered, we opened fire. The targets were plentyful and before long we had expended all our 75 ammo. Their return fire built up to a point where we could no longer maintain our position, and as our radioman had been seriously wounded we moved back down to the low ground.

We were later told by Battalion that although we had not accomplished our mission of joining "I" Co that the confusion we created with our firing relieved them so they had more time to reorganize in other positions.

This type mission can be, and in a number of cases was, misused. During the Korean action my section frequently climbed most of the night to be on a ridge for the morning attack only to find we were not needed. Hence, I would say the 75 is light enough to be carried almost anywhere it *is* needed, but too heavy to follow a line company across the ridges because it *might* be needed.

One question that I am sure has come to the reader's mind by now is, "How rugged is the 75?" Korea proved it to be as tough as they come. We pulled them up the sides of mountains with hand lines, we slid them down the mountains on both snow and dirt, we hauled them in trucks, jeeps, trailers and by carts and, of course, carrying a weapon that heavy over rough hilly terrain we (may I not have to sleep with it!) dropped them a number of times. Yet, cold or hot, they never failed to fire. The 75mm has so few parts that keeping it clean was never a problem.

May I add at this point, lest someone assumes the weapon is completely perfect, that not until the 75 has a mount designed for it and the HMG mount returned to the "heavies" will the 75 really be ready to "play ball." As the mount is needed only to support the weapon, not to absorb recoil, it should be much lighter. The sighting equipment used eliminates any need for the click type traversing and elevation mechanism of the HMG cradle. With these points in mind, my suggestion for the new mount would be that it basically follow the design of the HMG mount with the following exceptions: first, use lighter material throughout; second, remove the elevating and traversing mechanism and widen that portion of the cradle to a width of about 8 inches. Then install a new traversing and elevation system built on the order of the mortar's screw-and-nut-type mechanism. Third, move the mounting brackets on the gun to the rear, thereby shifting the gun forward on the mount to establish better balance. Fourth, the mobility could be greatly increased if the barrel could be redesigned to be removable from the heavy chamber, thereby splitting the one really heavy load. Lastly, the projectile of the 75 ammo has a pre-engraved rotating band which has to be turned back and forth until it becomes engaged with the lands and grooves in the chamber. Therefore, if a projectile becomes loose in the case allowing the case to move independently, the round is very hard to load. This could be corrected by the use of a pin and slot arrangement that would allow the projectile to move forward freely, but prevent it turning in the case.

In conclusion, I wish to offer my rebuttal to one argument that will surely arise. From those who came in contact with the 75s in Korea will come such criticisms as; they couldn't hit the target; we never used them; the back blast renders them useless etc. Of the valid criticisms, most were the fault of the crews and not the weapon. Most of the 7th Marines crews met the 75mm for the first time on the West Coast as they were being prepared to board ship. Their first school was held aboard ship on the way over. The section leaders and squad leaders, in most cases, were in better shape in that they had a manual. Upon landing in Korea, we found that not only were we green, but most of the units to whom we were attached didn't know what to do with us other than CP security. The first battalion to start using my section was the 3d Bn, 7th Marines, and to the best of my knowledge they were pleased with the performance of the weapon.

With these thoughts in mind, I suggest we put the 75 in its *normal* position—on our supprting weapons team. Once we have it in place, then of course, we can improve on the weapon and its mission. Let's, "Send him in, coach." USMC

MORE PUNCH FOR THE 60mm.

By TSgt J. P. Driver

AT THE PRESENT TIME THERE IS a need for a 60mm, over-size projectile. Except for the mechanized flame thrower and air dropped firebombs, incendiaries can only be delivered to the objective at white-of-the-eye range. The last few yards to get the portable flame thrower and the hand-placed demolition charge to the target are all too often the last yards the carriers will ever make.

Portable flame throwers are hampered by weight and range. The 3.5 rocket launcher is restricted to the size of the round. Hand-placed demolitions shortcomings are obvious and artillery lacks the payload for incendiaries.

The oversize rounds are not to be construed as a replacement for the traditional assault weapons, they are a supplement to them. The oversize round would give the company commander more flexibility and give the 60mm mortar section a place in the assault, which all too often they reach as stretcher bearers or ammo-humpers.

The Germans used over-size special purpose artillery rounds, the Japanese launched a finned bangalore torpedo from their 50 mm mortars and a number of other nations used rod-type rifle grenades. The Marine Corps at one time experimented with a spigot projectile fired from a 37mm AT gun.

The construction of the round presents a few problems. The hollow-charge round would carry about 6 lbs of cast Composition B. It would use a maximum penetration copper cone and the fuze might be the 3.5 rocket base fuze. The skin of the round need only be strong enough to withstand launching—aluminum would be a good material for this as well as for the stabilizing stick and fins. Such a round would give excellent performance against armor plate and concrete as well as a good showing against soil. The overall weight of the round of course must be kept as low as possible.

The incendiary round must be identical, ballistically, with the shaped round, using the same fuze, stick and propellant. It would have, in addition, a booster charge of black powder and magnesium dust. The round would have no cone so the payload would go up to about 7 lbs. The filler could be some type of napalm, or one of the Air Force developed incendiaries.

The best one, of course, would have to be determined by testing.

A third round, a standard 60mm round similar to the old 60mm training round could be developed. It would have the tactical value of getting on the target without wasting the heavy rounds. There also may be an element of surprise, but its main purpose would be training. It could be fired and recovered and fired again until the crew reached a high level of accuracy.

The shortcomings of these rounds are many; to list a few: effective range limited to 100 yards, accuracy would leave something to be desired, it would be slightly better than the rifle grenade, and, of course, several more types of ammo would bring shudders to the supply and gunnery sergeants, plus a few others.

The over-size rounds do have certain advantages; they can be used from cover; they have none of the back-blast of open-breech weapons and few weapons can match the payload delivered to the target utilizing the weapons on hand.

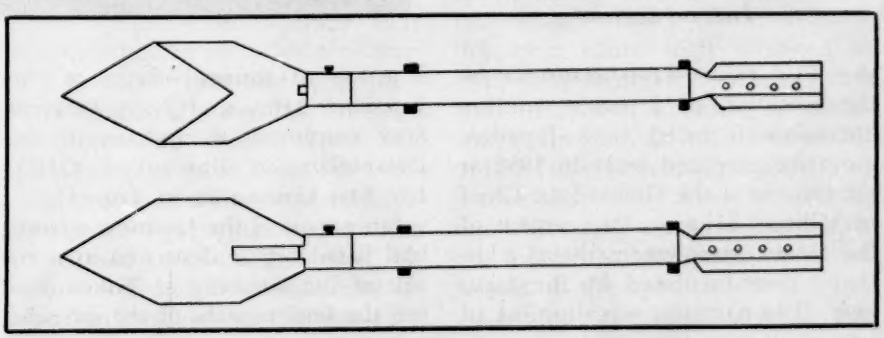
The rounds should be shipped disassembled with 4 stabilizing sticks and propellants in one case, and 4 heads and fuzes in another. The heads should be packed with a shipping plug threaded to take a standard priming adapter so the heads could be used as hand placed charges, or with a suitable firing device as a land mine or booby trap.

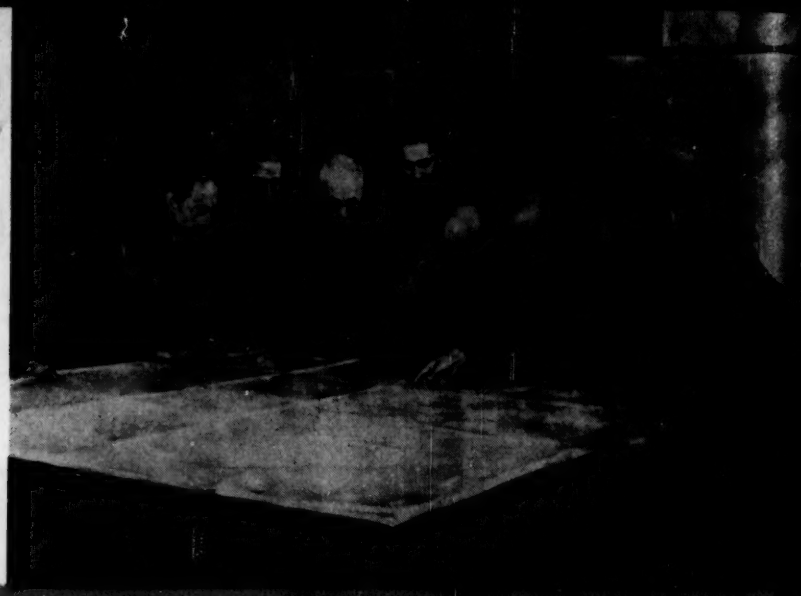
The field for development of the over-size round is wide. For instance, a fragmentation sleeve might be used, possibly folding fins, such as those used on the German *Panzerfaust,* would give more stability and accuracy. It would be a simple matter to boost range by installing a rocket motor in the stabilizer tube with a delayed igniter to kick-in when the round is well out of the bore.

These rounds would work well drop-fired, but lever fire should not be overlooked.

The cost of developing and testing these rounds would be slight compared to the results. Most of the components are available, the means and cost would justify the net results. The 60mm *could* and *should* be the company commander's artillery. USMC

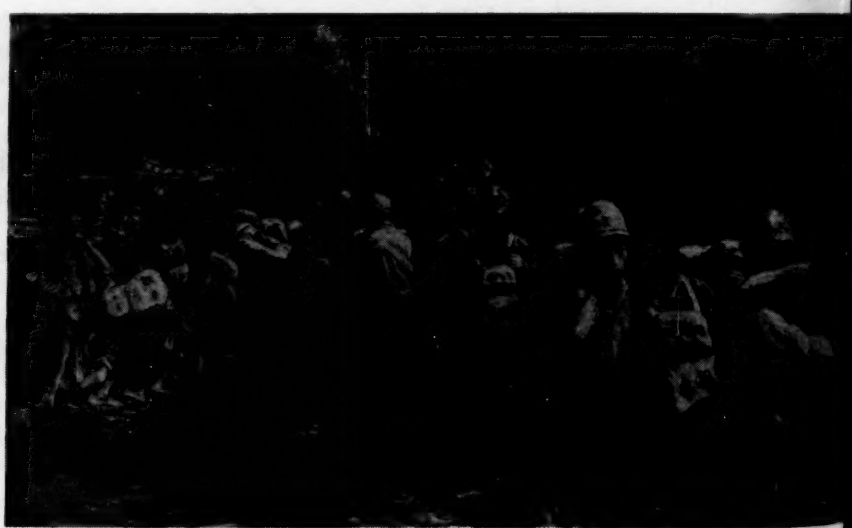
Hollow-charge, incendiary, must be ballistically identical





Evolution of Japane

A jury-rigged amphibious doctrine that evolved from the Russo-Japanese War served its purpose until the Allies gained command of sea and air



Edited by Dr. Louis Morton

Introduction

THE FOLLOWING ACCOUNT OF the evolution of Japanese landing operations is based on a Japanese narrative prepared early in 1952 at the request of the Office of the Chief of Military History, Department of the Army, supplemented by additional data furnished by the Japanese. The narrative was the work of a group of former officers of the Japanese Army and Navy General Staff employed as civilians in the Demobilization Bureau of GHQ, Far East Command, in Tokyo.

Since most of the Japanese records had been lost or destroyed as a result of the bombing of Tokyo during the final months of the war, the ex-officers engaged in this project (the chief of whom was LtGen Seizo Sakurai, Shipping Section, Army General Staff) were forced to rely on memory, personal notes and diaries. Every effort was made to overcome this handicap and, though minor errors may be detected, the narrative is generally accurate and reli-

able. Additional data gathered from other sources confirms its accuracy. The work of the former Japanese officers was performed under the supervision of the Military History Section of Far East Command, translated by the Allied Translator and Interpreter Service (G2), and then rewritten by the Military History Section's Japanese Research Division.

The version here presented has been greatly condensed and largely rewritten to meet the requirements of publication and to simplify the task of the reader. But though he took these liberties, the author has scrupulously avoided the omission of any substantive material or changes that might alter the meaning of the Japanese text and has, so far as possible, retained the wording of the Japanese. The present version, it is believed, retains all the essential elements of the original.

Grateful acknowledgment must be made to MajGen Albert C. Smith, the Chief of Military History, for permission to use the Japanese narrative and adapt it for wider circulation.

★ ★ ★ ★ ★

Landing Operations

LANDING OPERATIONS ARE THOSE launched by marine transportation against a hostile shore and include the embarkation of troops and supplies, movement to the objective and unloading, as well as the combat that takes place after the troops disembark.

According to this definition, a landing operation begins at the time of embarkation. There was never any question about this. When it ends is another matter and there is always a great diversity of opinion on this subject. Some officers argue that it ends when the troops are established ashore, as was the case when the 18th Independent Division landed on the Shantung Peninsula in the vicinity of Tsimo on 24 September 1914. This landing, Japan's first action in WWI, was designed to gain possession of the German stronghold of Tsingtao on Kiaochow Bay and thus deprive Germany of its only base in Eastern Asia. Others believe that a landing operation lasts until the forces are no longer dependent upon supply by sea. According to this reasoning, the landings on small, isolated islands during WWII came to an end only when the troops were evacuated or when the war ended.

Landing operations are always joint operations and therefore call for the greatest co-operation between the Army and Navy. This co-operation is always difficult to attain, especially in the absence of a supreme command. But the fault as often lies with individual commanders as with the system itself. Unity of control, therefore, is rare.

In the period from the Sino-Japanese War to WWI, our Navy played a larger role in landing operations than it did at a later date. Though the Army was responsible for transportation, the Navy furnished the escort, sent its own troops ashore first, and then provided cover for the landing of the Army forces.

Amphibious techniques of this early period, and the role of the 2 services, are well illustrated by the landing made on the Liaotung Peninsula. (The Russo-Japanese War began, without a declaration of war, on 9 February 1904 with a surprise attack against the Russian Far Eastern Fleet. The landing of the Second Army (1st, 3d, 4th and 5th Divisions) under Gen Oku was staged in Korea, already occupied by Japanese troops, and was made under the protection of a continuous chain of warships stationed along the route of the convoy. The landing site was a point near the east coast town of Pitzewo. Required to put the Second Army ashore at a point north of Port Arthur, the 2 commanders drew up plans calling first for the occupation of Chingtaishan by a naval landing force of 2 battalions of sailors and an artillery unit to protect the initial Army landing, followed by the landing of the 3d Div. After relieving the naval troops, the Army division was to secure the high ground further inland in order to cover the landing of the main body of the Second Army.

The landing began at 0530, 5 May 1904, when the 7th Coast Defense Ship Div consisting of 9 warships and 2 torpedo boats arrived at the landing beach. After 30 minutes of naval gunfire, the leading element of the naval landing force, the 1st Bn, started in for shore. Evidently the tide had been miscalculated, for about 1,000 meters from the beach the landing craft ran aground and the men had to wade the rest of the way. It was 0730 before they were ashore and 0800 before the town of Chingtaishan was captured. The 2d Bn and the artillery then came in.

The capture of Chingtaishan was the signal for the Army to land its troops, and the 3d Div began to debark. At 1130 the commander of the division's 17th Inf Brig arrived in the town with 2 infantry battalions and relieved the naval landing force which then returned to ship. The Army's operations thereafter proceeded according to schedule. (The landing was made under considerable difficulty, actually, and it took the Second Army 3 weeks to disembark and extend a line across the Liatotung Peninsula to Port Adams on the opposite shore.)

Landing operations during the

National Archives

Dairen Bay — no friction between the two services

Russo-Japanese War were almost entirely a Navy responsibility and there was little friction between the 2 services. This is clearly reflected in the agreement made between the Combined Fleet commander and the Second Army commander for the landing on the Liaotung Peninsula.

World War I brought about the first real change, with the Army assuming a larger role than ever before. The roots of this change lay in the advent of the submarine and airplane and the increasing complexity of war. The Navy had enough to do to build up its own surface and submarine forces, mechanize its warships, create an air force and make provision to meet underwater and air attack without maintaining land combat units as a fleet component. Thus the Army became solely responsible for landings, with the Navy continuing to furnish escort for the convoy and support during the assault. The Navy, however, continued to maintain Naval Special Landing Forces designed for use in operations where little ground combat strength was required and with which the Army had little interest. These units were in no way comparable in organization, equipment or purpose to the US Marine Corps.

As a result of its increased responsibilities, the Army began to give serious thought for the first time to the principles and methods of landing operations. The existing manual dealt only with transportation problems and something more was needed. The gap was filled temporarily by a revision of the manual which, though far from being a guide for military training, served for a time as a useful reference book.

The first manual covering land operations was published in about 1924 and revised in 1933. A joint product of the Army and Navy General Staff, the Landing Operations Manual (*Yoriku Sakusen Koyo*) placed special emphasis on the responsibilities of commanders in both services and on all echelons. A separate Debarkation Manual (*Yoriku Sagyo Kyohan*) covered the procedures and practices to be followed by shipping units.

The period from WWI to the China Incident was marked by good relations between the Army and Navy. Since the Navy was unable to maintain a force like the US Marines, specially trained in landing operations, the Army designated certain divisions, ultimately 4, for special training. These units, who resembled the Marines in organization and equipment, were employed later in landing operations.

A sign of the good relations between the services at the time was the command established during the Shanghai Incident in 1932 when the 24th Mixed Brig was placed under the command of the Third Fleet and used as reinforcement for the Shanghai Naval Special Landing Force. (To repress anti-Japanese boycotts and demonstrations in the great international metropolis of Shanghai as a result of the Manchurian oc-

Agreement between the Commander of the Second Army and the Commander in Chief of the Combined Fleet at the time of the Russo-Japanese War

The landing site will be Houtushih and vicinity.

In conformity with the Army's intention to shift its base of operations to Dairen Bay immediately after completion of the landing operations, the Combined Fleet will clear the bay as quickly as possible. Elements of the fleet will then execute diversionary movements along the coast between Yingkou and Kaiping. Should the enemy move to the south of Pulantien, the Fleet will threaten the rear of the enemy from the direction of Dairen Bay. Should elements of the Army advance to the line connecting Antzushan and Chikuanshan from the direction of Chinchou, the decision as to whether any action will be taken to facilitate the Army's advance from the direction of Dairen and Chinchou Bays will depend upon the results of the Combined Fleet's operation. In consideration of the preparations to be made by the Combined Fleet, the Army transport convoy will depart from Tatungchiang on 3 May.

The Combined Fleet will be charged with escorting all transports during the movement from the assembly point to the landing site and while the landing is in progress.

In order to avoid an excessively large convoy, the first echelon will be landed in two waves, while the remainder of the convoy will be dispatched in three echelons from Tatungchiang.

Simultaneous with the landing of the Second Army, the Combined Fleet will begin laying submarine cables between Tatungchiang and the landing site. Should this project be delayed, the Fleet will assume the duties of maintaining communications between the landing site and the point where the cable ends.

cupation, the Japanese naval commander in the area determined to use his forces to break the boycott. On 3 February 1932 he sent a naval landing force against the Woosung Forts at the mouth of the Yangtze, just north of the International Settlement, but they were repulsed with serious loss. Reinforcements, including the Army's 24th Mixed Brig and 11th Div, were sent to Shanghai and by 18 February the Japanese had about 20,000 men ashore, supported by artillery and aircraft. Fighting lasted until 3 March when the Chinese withdrew from the Shanghai suburb of Chapei. The crisis was ended by an arrangement which kept Chinese forces out of a 12-mile zone surrounding the city, the Japanese retaining a small force in their section of the International Settlement.) This was the first time we were able to establish a unified command during a landing. And part of the success of the Army in landing operations along the China coast during the China Incident can certainly be attributed to the excellent co-operation it received from the Navy.

This co-operation did not exist in WWII. The Navy, the Army felt, attached too much importance to naval action and relegated combined operations to a secondary place. The success of the landings early in the war was due not to the efficiency with which these operations were conducted, but rather to the elements of secrecy and surprise. When these were lost, as at Midway in June 1942, the Navy was unable to prevent the enemy from attacking the convoy with air and naval force and the expedition failed. Thereafter, as the Allies gradually gained supremacy in the sea and air, we found it increasingly difficult to transport troops. It was almost impossible to use large transports in the forward areas and ships had to move in and unload during darkness within range of enemy aircraft.

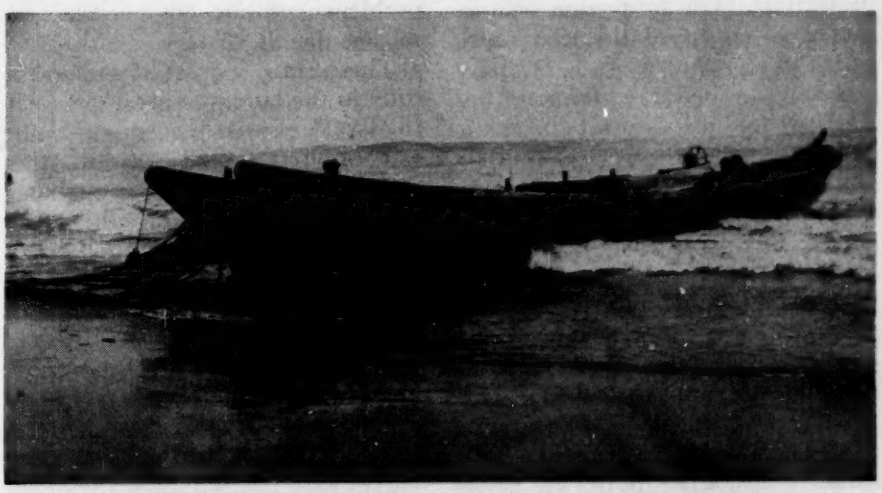
Even the use of small craft for troop transportation did not solve our problem. The quality of the craft—large barges—was not good. They were slow and their capacity inadequate. The I-GO high-speed barges and SB boats used later in the war were an improvement but they, too, could carry only a limited number of troops and had to travel at night, often close to shore. Submarines were also used as troops transport and made several successful trips; though useful in special cases they could not be considered a solution to the problem. (Submarines were used to transport troops to Leyte, Chichi Jima in the Bonins, and Tokuno Shima in the Ryukus during the campaigns.)

FROM THE TIME of the formation of the Army and Navy early in the Meiji era (1868), the transportation of troops overseas has been the responsibility of the Army, not the Navy, as in other nations. In peacetime this responsibility was lodged in the Army Transport Department which inspected and maintained ships, equipment and harbor facilities, made plans and trained personnel. Many feared that the civilians employed by the department, especially those who manned the transports, were lacking in military discipline and might fail to perform their duties under fire. But though repeated requests were made to place the department on a military basis, little was done until 1928 when a single engineer company was given training in the operation of landing craft. From this expedient developed the shipping engineer units we used in WWII.

During hostilities the Army Transport Department was placed on a war footing and became the Shipping Transport Command. Its duties were enlarged also to include supervision over the conversion of commercial vessels, embarkation of troops, and the loading of munitions and supplies. (During September, October and November 1941 an average of 40,000 ship-tons daily were converted from merchant shipping to transports. At the start of the war Japan had approximately 6,300,000 steamship tons.) About July 1942, with the change in the war situation, it became necessary to strengthen and reorganize the Shipping Transport Command. A General Shipping Command was created, existing units were reinforced, and new units organized.

Prior to WWII the Army, which held that water transport was not one of its functions, paid little attention to the quality of the men it assigned to shipping units or to their training. As a result, these units were of poor quality and it was not until the middle of the war that an effort was made to improve them. But by that time it was too late, though the men assigned to transport duty, many of whom lost their lives in action, were given military status toward the end of the war.

The Army always suffered from a shortage of transports—a reflection of the chronic shortage of wartime shipping. Thus, during the Shanghai Incident in 1932, the 11th Div and 24th Mixed Brig were carried by naval warships. The landing craft, heavy artillery and horses, however, had to be loaded on transports, and though both the Army and Navy's ships arrived at the anchorage simultaneously there was considerable delay and confusion in unloading men and supplies. It was as a result of this experience that the Army decided to build transports capable of carrying landing



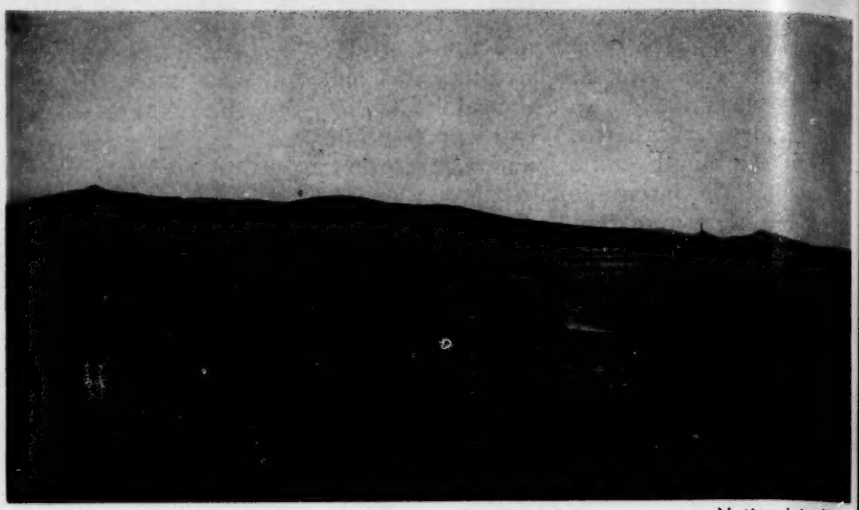
WW II — development of landing craft failed to keep pace

craft as well as troops. The *Shinshu Maru,* which carried seaplanes also, was the first of these vessels. Though 8 more were planned, only one, the *Akitsushima Maru,* was completed by December 1941.

During the war, speed became an increasingly vital factor and many officers argued that emphasis should be given to the construction of larger ships for the Army because such vessels could develop higher speeds and so evade enemy attacks. Further, larger ships meant that fewer ships would be required to transport and supply overseas forces and thus simplify the task of the Navy escort. But as the war progressed it became evident that no matter what the size or speed of the transports, their use in the combat zone was limited and their operations confined to the hours of darkness. Moreover, the tonnage allocation of 5 tons per man and 10 per horse had to be successively reduced with the mounting toll of shipping losses. It is interesting to note in this connection that all our transports had stables as well as berths built into the holds.

In an effort to protect the transports against hostile attack, we used various devices. Antiaircraft guns were in such short supply that only one could be allotted for every 2 transports. Special defense ships (*Bokusen*), equipped with 5 to 10 antiaircraft guns and several cannon to protect the convoy, were therefore organized. A number of transports were equipped with depth charges, mortars and antiaircraft guns for use against enemy submarines. With these and submarine microphones (*SO-GO* and *RA-GO*), we achieved some degree of success in this type of warfare. For protection against mines we equipped the lead transports of a convoy with ordinary paravanes. Special equipment was devised for use against magnetic mines and plans were made to install this equipment on all transports with a speed of 14 knots or more. But because of the shortage of copper and inadequate facilities, very little was accomplished in this respect by the end of the war.

Of all the equipment required in landing operations, the most important was, of course, the landing craft. These craft had not only to carry men and supplies but horses as well. They had to be fast, maneuverable, partially armored, so designed as to be capable of mass production and so constructed as to be able to approach the shore easily and to load and unload conveniently.



National Archives

Pre-WW I — simply-constructed barges towed by steam vessels

Between the Sino-Japanese War and WW I we had used clumsy looking, simply constructed boats or barges usually towed by small steam-powered vessels. During WWI metal motor barges began to replace the wooden ones. But the process was a slow one and by the time of the Shanghai Incident in 1932 there were only a limited number of these newer types.

The China Incident spurred the Army on to greater efforts and a goal of 120 landing barges was then set. That goal was later raised to 600, in prospect of war with the United States and an expanding theater of operations, and plans were made to use sea trucks and powered fishing boats as well. To simplify the fuel problem, gasoline engines were to replace diesels.

These craft, employed so successfully in the landing operations early in WWII, proved inadequate as the war progressed and various other types were developed to meet changing conditions. Among these was one designed for tanks, another for antisubmarine patrol and for action against PT boats, a third built for speed to rush troops to forward areas and, finally, the special attack boats designed for suicide attack. At a time when every effort was being made to replace the old wooden barges with metal ones, many of the new craft had to be built of wood because of iron and steel shortages. So unsatisfactory was the large landing barge made of plywood that its construction was discontinued.

The training of troops specifically for landing operations did not begin seriously until the decade of the 1930s, although many such operations had been conducted earlier and the 3d Div had conducted amphibious exercises in the summer of 1921. But even in the 1930s, because of the expense involved in chartering vessels, training was given on land. Practice in debarkation from transports to landing barges was simulated by sending the men down rope ladders hung from barracks windows. And in barracks squares model motorboats were built to teach troops how to take their positions in the landing craft, shoot and leap to shore during a landing operation.

Staff officers received their training at the Army War College where special efforts were made to bring Army and Navy officers in close contact during amphibious exercises. The principles governing the co-ordinated planning and direction of such joint operations were set forth in the Joint Exercise Manual (*Riku Kaigun Enshurei*), issued in 1933 and later redesignated Army-Navy Joint Order No. 1, the only joint order ever issued by the 2 services.

PLANNING FOR A LANDING operation requires the greatest co-operation between the Army and Navy in order to secure the co-ordination so vital to success and to avoid waste of manpower and materiel. Since

operations were usually planned without precise knowledge of the enemy or the target, it was customary to prepare an alternate plan. "However," writes Gen Sakuri, "once a plan had been put into operation, regardless of the situations that arose, nothing was allowed to deflect the commanders from that plan."

The choice of landing site was fixed by numerous considerations: an anchorage close to shore, accessibility to roads and important operational objectives, enemy defense, navigational conditions and weather. Reconnaissance of a landing point was made at the time the plans were drawn up, and again, if possible, just prior to the landing. Information was sought on the topography of the countryside in the vicinity of the landing site as well as the strength and position of hostile forces. The collection of this information was the joint responsibility of the Army and Navy. Each of the services utilized every method at its disposal for obtaining the necessary data, taking care to employ deceptive reconnaissance to avoid disclosure of the actual landing site. (The Navy, for example, used submarines to obtain information on underwater obstacles, the Army high-altitude aircraft for photo-reconnaissance.)

Embarkation was the responsibility of the commanding general of the expeditionary force, the shipping transport commander providing the transports, loading schedules, and space allocation. The order in which troops were transported was determined by the landing plan and the nature of the projected operation. Based on these and other factors, dates and ports of embarkation were selected, consideration being given to railroad capacity and harbor facilities. Combat loading was considered essential to the success of an operation, and troops and supplies were so divided among the transports that the loss of any one vessel would not seriously jeopardize the outcome. Among the many landing operations we made there was not a single instance of difficulty attributable to a poor loading order. (This statement obviously does not apply to the period after July 1942.)

The Navy's role in an overseas expedition was confined to minesweeping, escort and fire support at the objective. From the time it left the assembly point until it took its scheduled place at the anchorage off the landing beach, the convoy was under the control of the naval escort commander, but even at sea command of the landing force remained in the hands of the Army commander. The Navy exercised control over navigation, sea routes, maneuver and similar matters; the troop commander retaining control of his troops and responsibility for the defense measures aboard the transports, which were usually armed and equipped to navigate and defend themselves in formation but were virtually helpless against submarine attack.

The task of the naval escort was to protect the convoy from hostile warships, submarines, aircraft and mines. Standard operating procedure for escort duty prescribed:

1) Indirect escort, normally, to clear hostile surface forces from the waters along the scheduled course of the convoy; direct escort when hostile surface forces were considered inferior in strength or when their exact location was unknown.

2) Avoidance of courses over water where enemy submarines were suspected to be, even to the extent of sacrificing time and distance, and a change of course at dawn or dusk if hostile submarines were believed to be pursuing the convoy.

3) Defensive measures in regard to formation, employment of direct escort, evasive maneuvers and defensive measures aboard each individual transport.

4) Formation of convoys into 2 to 4 squadrons, each consisting of 6 transports, preferably of similar size and speed, grouped into divisions if necessary,

5) A distance of approximately 400 meters between transports and 800 meters between divisions, with important transports in the center of the formation and those with the greatest speed in the outer positions. In case of submarine activity, the convoy was to assume a fanlike formation.

6) Assignment of at least one destroyer and subchaser to several transports, placed around the convoy at a distance of approximately 1,000 meters. In addition, naval craft were to precede the convoy and, if necessary, aircraft would patrol overhead.

7) Antisubmarine measures as follows: ramming at full speed if submarines were spotted forward on the beam at close range; evasion by high-speed maneuvers when they were detected at a distance, or to the side and rear; fire and depth charges according to existing circumstances.

Upon arrival at the anchorage, the warships took up their stations to support the landing, minesweepers clearing the anchorage area and work units removing underwater obstacles. These tasks completed, the Army debarkation units lowered the landing craft and put men and supplies aboard. When this step was completed, the transport commander reported to the troop commander who, at his discretion, gave the order to begin landings. All landing craft then started for shore, protected by warships, armored barges and aircraft. The fact is that landing operations were under the control of the Army, the Navy lending assistance when asked.

Frequently the Army used the "2-stage" anchorage method in which the first wave debarked some distance from the shore, the convoy moving in to a second anchorage closer to the beach, where the succeeding waves were put over the side into the landing craft used by the first wave. Little time was lost by this method, but it made co-ordination of the movement of the convoy and the landing craft difficult and greatly increased the area to be cleared of mines.

In the campaign against Malaya in WWII, the important transports were equipped with paravanes and were able to proceed directly to the anchorage without waiting for the minesweepers. (The conquest of Malaya and Singapore was assigned to Gen Yamashita's Twenty-fifth Army. Initial landings were to be made during the early morning hours of 8 December by an advance detachment [23d Brig] of the 5th Div at Kota Bharu along the east coast of the Malay Peninsula, with another landing at Singora, just across the border in Thailand. The Kota Bharu Detachment in 3 high-speed transports escorted by warships reached the anchorage at 2300, 7 December [local time]. Wind was high; sea rough. It was not until 0130 that the landing craft were launched and the first wave headed

in toward shore in some confusion. At 0300 British aircraft attacked the convoy as the landing craft began to return. The second wave debarked at 0320, after which, as a result of the air attack, the transports retired. As the Japanese report noted, "no satisfactory result was obtained.") But the landing had to be made in darkness because of the danger of enemy air attack and at dawn the transports had to be withdrawn to return to the beach after sundown. This method, though it effectively reduced the danger of torpedo attack, had several great disadvantages: a) it prolonged unloading operations and kept the transports in operational waters a long time; b) left the landing craft unprotected on the beaches during the day, with heavy losses; and c) led to considerable confusion during unloading, especially when the enemy attacked. During the landing at Kota Bharu, we lost one of the transports and suffered damage to the other two.

The landing plan of the 18th Div at Mersing in Malaya is worth noting because of one unusual feature—its great emphasis on mine sweeping. (The 18th Div seems to have landed at Endau rather than at Mersing as originally intended. The landing was made on 8 January and was designed to outflank the defending forces.) To avoid anticipated enormous losses from mines, the Army used the 2-anchorage system and accepted a delay in the interval between the landing of the first and second waves. Under this plan, the convoy would enter the first anchorage after the minesweepers had cleared this area and there debark the first wave. The minesweepers would then continue their work after which the convoy would move to the second anchorage closer to shore. Here the second wave would debark and move in slowly behind the small craft sweeping the shallow waters.

The landing at Lamon Bay on Luzon in December 1942 also called for special provisions. In this case an anchorage very close to shore had to be selected because the troops had to be debarked in such rapid order that they could cross the Tayabas Range before the enemy could reinforce his positions. Failure to do so might enable the defenders to dig in along the route across the range and close the road to Manila altogether. The landing at Lamon Bay, southeast of Manila, was made by the 16th Div [less detachments] of Gen Homma's Fourteenth Army, staging from Amami Oshima in the Ryukyus. Naval escort and support were provided by a light cruiser, 6 destroyers, and minesweepers. Anchorage was reached at 0130, 24 December, and an hour later the troops were headed toward shore.)

The most detailed plans were made for the Lingayen landings north of Manila where the bulk of Gen Homma's Army landed. Operations were to begin after the enemy's air power had been destroyed and advanced air bases established on Luzon, estimated to be about 10 or 15 days after the opening of hostilities. In the landing force were the 48th Div, 2 tank regiments, 6 battalions of artillery and Army troops for a total of 43,000 men. About 350,000 tons of shipping and from 7 to 10 days would be required to move this force with its equipment and supplies from the 3 assembly points to the landing site on the shores of Lingayen Gulf. (See box below.) In the hope of achieving surprise, naval bombardment and pre-landing aerial and submarine reconnaissance were ruled out. Escort to the anchorage was to be provided by the Third Fleet; air cover and support during the landings by the 5th Air Group from Philippine bases seized earlier.

Lingayen Gulf Landing Force, December 1941

CONVOY	ESCORTS & TRANSPORTS	SHIPPING UNITS	STAGING AREA	DEPARTURE DATE	TIME OF LANDING	LANDING POINT	NO. OF LANDING CRAFT	LANDING SCHEDULE*	NAVAL & AIR SUPPORT
1st Convoy 47th Inf Regt (—1 Bn) 4th Tk Regt (—1 Co) 2d Bn 48th Mtn Arty Regt 9th Ind Hvy FA Bn (—) Air Def Unit 5th Air Gru Gnd Elms	1 lt cruiser 8 destroyers 27 transports	1st Shipping Unit Shipping Gru Hq 2d Ship AAA Ship Sig Det Floating Work Ship (3) 28th Ship Engrs 21st Ship Engrs 6th Ship Engrs (2 plat) 3d Ship Engrs 52d Anchorage Hq	Takao (Formosa)	1700 18 Dec	0500-0540 22 Dec	Agod	37 Large landing barges 27 Small landing barges 10 Extra large barges	1st Day Main Force (3 waves) Div Int (1st wave) AA units (3d wave) Trucks 2d & 3d Day Rest of Force	Naval 2 battleships 5 hvy cruisers 1 lt cruiser 2 seaplane tdrs Air 5th Air Gru (Army) 11th Air Flt (Navy)
2d Convoy 14th Army Hq 48th Div Hq 1st Formosa Inf Regt 7th Tk Regt 1 Co, 4th Tk Regt 1 Bn, 47th Inf Regt 48th Mtn Arty Regt (—) 48th Engr Regt (—) Army Arty Uejima Det (1st Bn 9th Inf)	1 lt cruiser 7 destroyers 28 transports		Mako (Pescadores)	1200 18 Dec	0530-0550 22 Dec	Caba	25 Large landing barges 25 Small landing barges 5 Extra large barges	1st Day Main Force (3 waves) Shore Parties (1st wave) Div Hq (2d wave) AA Units (3d wave) Trucks (subsequent waves)	
3d Convoy 14th Sig Regt 9th Inf Regt (—) 9th Ind Hvy FA Bn (—) Air Def Unit (—) 5th Air Gru Gnd Elms	1 destroyer 21 transports 4 trpdo boats		Keelung (Formosa)	0400 17 Dec	0700-0730 22 Dec	Bavang	11 Large landing barges 11 Small landing barges	1st Day Large Force	

*Round trip of landing craft — 1st wave — 2 hrs
2d wave and thereafter — 1 hr
10 round trips per day

Cebu landing — dawn was considered the best time

THERE IS LITTLE DISAGREEMENT that the best time to land troops is at dawn. Theoretically, this time is admittedly most advantageous for the attacking force, increasing the element of surprise and lessening the likelihood of loss from enemy fire. When no other considerations intervened, landings were therefore made at first light.

In planning the opening attacks of the Pacific War, we had to give serious attention to landing schedules. Since Guam, the Philippines and Malaya had to be invaded almost simultaneously with the attack on Pearl Harbor in order to achieve surprise, Imperial General Headquarters itself fixed the time of attack. Regardless of the enemy situation or the weather, the attacks had to be carried out by the field commanders at the scheduled time; delay might well have jeopardized the basic war plan. (The Pearl Harbor attack, which is often regarded as Japan's first blow of World War II, came at 0320, 8 December [Tokyo time]. Actually the Malayan invasion, which began at 0130 of the 8th, started the war. Other attacks were: Singapore, 0610; Guam, 0805; Hong Kong, 0900 or earlier—all Tokyo time. Though the major attack against the Philippines from Formosa was delayed by fog, carrier-based planes struck the seaplane tender *William B. Preston* in Davao Gulf at dawn, about 3 hours after Pearl Harbor.)

For a time night landings were thought highly desirable. But to land at night the convoy had to time its approach so as to enter the anchorage at midnight and have the bulk of the combat troops ashore just before daybreak. Aside from the disadvantages of night unloading, this method had the further disadvantage of revealing to the enemy the landing site, for to reach the anchorage at the scheduled time the convoy had to set its final course some hours before sunset.

The element of surprise was a fundamental precept in our amphibious operations, the key to a successful landing. Everything possible was done to avoid detection and to deceive the enemy. The means employed included feint landings, deceptive reconnaissance, the use of improbable landing sites, minesweeping operations, the diversion of warships and transports to points remote from the actual objective, and the temporary landing of troops at alternate beaches. But it was doubtful that these measures had much effect. "Today, with modern means of reconnaissance and communication," writes Gen Sakurai, "it is difficult to conceal the movement of troops."

Because of this emphasis on surprise, our landing doctrine in WWII did not attach much importance to naval bombardment of shore positions prior to a landing. Bombardment operations had been used in earlier wars, but the Army had mixed feelings about them. Those in the Russo-Japanese War and China Incident were regarded as unsatisfactory, but the naval gunfire support for the landings made during the Shanghai Incident proved extremely effective. On that occasion the Navy had not only broken up an enemy counterattack against the left flank of the first wave but had also put a covering barrage over the troops 200-300 meters beyond the front line. Moreover, fire control from the beach to ships was excellent and when the troops were ready to move forward, firing was quickly discontinued.

The Army viewed the Navy's operations off Shanghai as the exception rather than the rule. The Navy, it felt, did not consider shore bombardment as one of its primary functions and paid little attention to it in training. As a result, this type of gunfire proved generally unsatisfactory, as did the Army's effort to use the guns on Army transports and armored boats to knock out shore positions.

Naval fire support during a landing was delivered only when specifically requested by the ground commander. When it was, Army officers were often sent aboard ship to serve in a liaison capacity with the Navy to ensure accurate and rapid transmission of requests. By joint agreement it was determined in advance which ships were to fire, at what times and upon what targets. After the landing, fire was delivered as the occasion demanded. The Navy undertook also to provide security for the transports in the anchorage area, sending out small ships to search for enemy vessels and submarines.

When the landing operation was over, the Navy brought seaplane tenders or the catapult planes which had participated in the operations to the landing beach area. These seaplanes assisted the ground forces in the beachhead and further inland, while providing security for the sea frontier and observation for naval gunfire when it was given. If Army aircraft were not available, naval aircraft carried out reconnaissance missions after the landing and attacked enemy ground targets until such time as Army air units reached the area.

The role of aircraft in landing operations was to provide air cover for

Singapore surrender — early success sprung from Allied air weakness

the convoys and reconnaissance both before and during the assault. In addition, the planes laid smoke screens if required, bombed enemy positions, fought off hostile aircraft, and directed naval gunfire. The main objective of many of our landings in WWII, as a matter of fact, was the seizure of enemy airfields, and when this was not possible we seized an island or land area close to the proposed landing site for an airfield to support the landing. This method was used by US forces also when they took the offensive in WWII. Our success early in the Pacific War can be attributed as much to the enemy's weakness in the air as to any other cause.

The co-operation of aircraft was considered essential to success in an amphibious operation. Chief reliance was placed on land-based air power, but carrier-based air support was used on occasion also. Thus, in the Philippines invasion the land-based 11th Air Fleet (Navy) and 5th Air Group (Army) furnished the main strength, carrier-based air being used in operations against Davao in the Southern Philippines and in the Netherlands Indies.

In the selection of objectives and targets, the highest priority was given to air bases; fleet bases and large cities were considered of secondary importance. Thus, in an amphibious operation, the first step was to annihilate the enemy's air power, then his sea forces. Thereafter it was necessary to secure air cover for the invasion forces either by seizing advanced airbases as was done in the Philippines, or by limiting the objective to one within range of existing fighter bases (less than 400 miles). When it was possible, the start of the first air strike and the time for invasion were simultaneous. But when this was not possible, surprise landings were executed at the earliest possible moment in order to secure air bases.

The loading of men and supplies of the landing force, like the embarkation, was the responsibility of the Army. For the Sino-Japanese War through WWI this responsibility was discharged by an Anchorage Headquarters which had under its command specially organized transportation units (*Yosotsu Tai*). During the Shanghai Incident in 1932, debarkation working parties (*Yoriku Sagyo Tai*), composed of shipping engineer units and shipping units in the landing force, were organized to perform these duties. Under the Anchorage Headquarters, this unit functioned effectively in the China Incident and in the Pacific War by which time it had grown so large that a Debarkation Group Headquarters was created.

The task of the debarkation unit was to lower the landing craft from the transports, bring them into shore, install landing markers, construct piers, establish communications, assembly points and munition dumps and, when necessary, mark with buoys dangerous waters, mooring areas and a safe channel. All these operations were under the control of the commander of the debarkation group who was responsible for drawing up the detailed plans which would get the troops and supplies ashore promptly and in proper sequence. These plans were carefully co-ordinated with the troop commander's landing plan, due allowance being made for unexpected resistance, losses in landing craft, unfavorable weather and seas.

During the Shanghai and China Incidents, troops were successfully debarked from naval warships, but in both cases difficulty was encountered in unloading supplies. In the first instance, joint reconnaissance by the commander of the debarkation unit and naval support determined the point of landing and the plan was carried out on schedule. In the landing at Chuangschachon during the China Incident, enemy air opposition and a shortage of landing craft created considerable difficulty. As a result the 11th Div went ashore without horses or vehicles and could not move its supplies forward from the beach. Though the problem was solved quickly by shifting to a new unloading area, the Army took to heart the lesson that more careful planning and preparation had to be given to the unloading of supplies.

In the various wars prior to the China incident, when overseas expeditions were close to our shores, there was little danger that the enemy would cut our supply lines. The main problem then was availability of materiel; transportation was a secondary consideration. In the Pacific War, while materiel was still very important, much greater importance was attached to the problem of transportation and shipping. The quantity of supplies on hand meant nothing unless it could be sent where it was needed in the right amounts and at the proper time. The enemy had the power to cut our sea communications and because of the danger of air and submarine attacks it was impossible to leave transports anchored for any length of time near the landing points.

The Malayan expedition is a case in point. Because the first echelon was required to complete its landing in 3 nights, only one month's supply of weapons and ammunition and one week's supply of rations was taken along. Later echelons

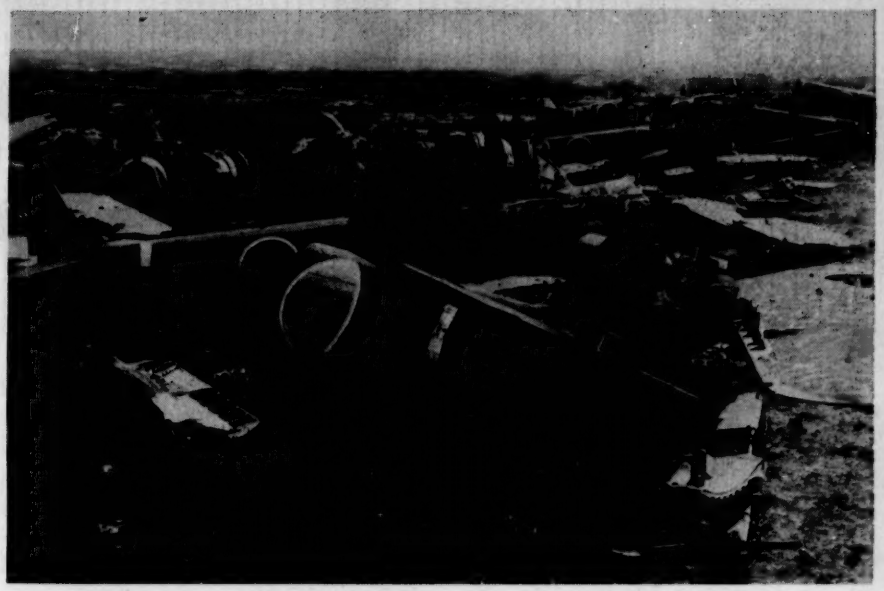
were subject to the same restrictions. To compensate partly for these limitations and for the possibility of losses by enemy action, supply bases were established in French Indo-China. Certain supplies were shipped in small quantities by sea truck and fishing boat and a repair ship went in with the convoy.

As the war progressed our supply problems became more and more difficult because of enemy air and sea action until, finally, we found it impossible to continue the war.

In summary, therefore, it is believed that great emphasis must be placed on sea and air supremacy, particularly at the time of landing. In former times, the enemy's surface power was all that we had to contend with when a landing was planned. During the Russo-Japanese War, for example, the Combined Fleet destroyed the Russian Fleet outside Port Arthur on 8 and 9 February 1904, and was then able to land the Special Korea Expeditionary Forces at Inchon. (The Russian Far Eastern Fleet included 7 battleships; Admiral Togo had a Battleship Squadron, 4 cruisers, 19 destroyers and torpedo boats, in addition to a separate Cruiser Squadron of 6 armored 8-inch gun cruisers. It was the Cruiser Squadron that opened the war by attacking 2 Russian cruisers at Inchon, sinking one and so damaging the other that it was sunk by its crew. The torpedo attack against the Russian Fleet at Port Arthur seriously damaged 2 battleships and a cruiser. These actions did not destroy the Russian Fleet, as often thought, but they did give the Japanese temporary control of the waters off Korea and the Liaotung Peninsula and made possible the landing of Gen Kuroki's First Army of 3 divisions at Inchon on 17 February. By May, this Army had gained control of northern Korea and reached the Yalu River where it defeated the Russians in the Battle of the Yalu [5 May 1904] and crossed into Manchuria, to meet up ultimately with the forces that had landed on the Liaotung Peninsula.)

The development of underwater craft and military aviation during and after WWI presented us with new problems. In addition to expanding and mechanizing our Navy to meet these new conditions, we also decided to establish sheltered anchorages along the prospective main routes of advance in a future war, that is, a series of bases provided with harbor facilities and antiaircraft and antisubmarine defense. The execution of this plan was restricted in part by the limitations of the Washington Treaty and in part by inadequate funds set aside for defense in the national budget.

It was only after we launched the Pacific War that we fully realized the absolute necessity for achieving command of the sea and air. By then it was too late, and despite our early successes the enemy gradually gained control of the sea and air, thus making it extremely difficult for us to transport and supply our troops. Water transportation became increasingly hazardous after the Battle of Midway and larger numbers of warships were lost as a result of hostile attack. These losses led to a reduction in the number of vessels available for escort duty with the result that more ships were lost and the task of transporting men and supplies became virtually impossible. It was a vicious cycle which, by the end of 1944, cut our merchant fleet in half and reduced cargo loadings to one third of their wartime peak, so that the flow of strategic materials—coal, iron ore, oil, rubber, nickel, chromium and manganese – slowed to a trickle and production dropped alarmingly. Strategically, we were defeated when we were no longer able to replace our losses in merchant and naval shipping. USMC



Okinawa — control of the air and sea had passed to the Allies

The end — defeat follows inability to replace losses

THE BAYONET

By LtCol R. H. Rankin

OF ALL THE WEAPONS AT THE command of the modern infantryman, the bayonet is one of the least changed through the years.

Considerable doubt exists as to the exact origin of the weapon. Even the origin of the word itself is open to some question. Some authorities maintain that the word "bayonet" comes from *baionier*, a crossbowman of the Middle Ages who was also armed with a large knife or dagger. The most popular theory, however, which is cited in most military literature in the English language is that the detachable blade on the end of the gun was named after Bayonne, France, a town once famed for its dagger manufacture.

The idea for the weapon itself seems to have originated purely as a *defensive* device. Early firearms were awkward and unreliable at best. Muskets required several minutes to load, during which time a determined enemy had both time and opportunity to charge in among the musketeers and hack them down while they were engaged in the complicated business of getting ready to fire. For quite some time tactics provided that upon discharging their pieces together on command, the musketeers would retire behind the pikemen who would stand guard, protecting them until the reloading process was complete. Thereupon the pikemen and musketeers would change places and the whole thing would begin anew. Since this system was awkward, the military planners soon recognized that some improvement had to be made.

As the musket was gradually improved and made a permanent place for itself, it was seen that the pike

would eventually be replaced as an infantry weapon. One of the first expedients proposed provided for the musketeer to be equipped with a short pike which he could thrust through 2 rings fitted to the stock of his piece, thus transforming it into a defensive weapon. This device was only a makeshift, and there is no record of its ever having actually been used to any considerable extent.

The so-called *plug* bayonet appears to have been the first bayonet to have been used with any appreciable degree of success. This weapon consisted merely of a rather long dagger, with or without quillons, with a tapering haft which could be plugged into the muzzle of the musket. The tapered haft was an absolute necessity, for it provided the sole means then available of obtaining anything approximating a firm fit. Standardization was unheard of in those days, so very few guns were likely to be exactly the same in diameter of the bore.

Marechal de Puysegur, a native of Bayonne, is usually credited with the origin of the plug bayonet, although he himself does not lay a claim to that distinction. In his memoirs he does recount that while commanding troops at Ypres, in 1647, he had his musketeers equipped with long daggers which were provided for the express purpose of being plugged into the muskets in case of an enemy charge before his men had a chance to reload.

Regardless of its origin, the plug bayonet was used for a period of some 40 or 50 years, being supplanted by what was known as the *ring* bayonet. This weapon also had a tapered hilt but was fitted with 2 stout metal rings, one at the guard and one at the pommel. Instead of being plugged into the muzzle of the gun, this model was attached to the gun by thrusting the muzzle through the rings.

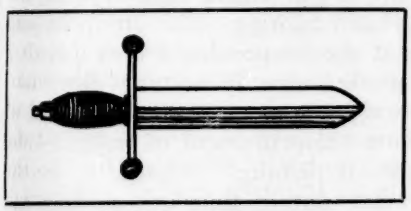
The plug bayonet was rather unsatisfactory from its very inception inasmuch as the piece could not be fired with a bayonet fixed. If the weapon was plugged into the muzzle firmly enough to be secure to any degree it could be removed only with difficulty. That this could be a trifle embarrassing is demonstrated by the Battle of Killiecrankie (1689) where the British defeat by the Scots may be attributed, in part at least, to the use of the plug bayonet. It happened that the British were ordered to fix bayonets immediately after having fired a volley at the advancing clansmen. It was then discovered that the enemy was farther away than had first been estimated. Believing that time would permit firing again, the British commander then ordered his men to unfix bayonets, following this with an order to reload. Before this could be done the Scots were upon the musketeers, taking a terrible toll of the by now utterly defenseless British.

The defeated commander, Gen-

eral Hugh Mackay, thus having had the limitations of the plug bayonet so graphically impressed upon him, devised a ring bayonet similar to that already described so that the soldier could fire with the bayonet fixed. Some military writers credit the English general with this type of bayonet. There is evidence, however, that a ring type bayonet was being used by some French troops at least 10 years prior to the Battle of Killiecrankie.

Although the ring bayonet did permit the musket to be fired with the bayonet fixed, it was still difficult to secure a firm fit because of the same old lack of standardization of muskets. In addition, the rings had a tendency to stretch out of shape after any degree of use, rendering the weapon useless.

The next development was the *socket* bayonet, which is first mentioned in military literature around 1724. This consisted of a sleeve or socket to which the bayonet blade



The Plug Bayonet

was offset so as to be well out of the line of fire. Yet again lack of standardization caused much trouble, and it was impossible to produce a single model which would fit even a small number of the guns being used by one unit. This led to a number of experiments to develop some universal method of rigidly fixing the blade to the gun. One method proposed was to make the bayonet a part of the musket itself. The simplest and yet one of the most successful, for a time at least, was the *split* socket bayonet which was evolved by merely splitting the socket sleeve lengthwise to permit it to be opened wider or hammered close to obtain a better fit. Many other methods and devices were subsequently developed, using various arrangements of slots, rings, catches, clasps and springs. The most successful of these employed a slotted socket which permitted a snug fit with the front sight being accommodated by the slot which was closed by twisting a closely fitting ring or band. For the most part these socket bayonets had a triangular cross-section blade.

Shortly after the beginning of the 19th Century the first spring clip bayonet was introduced. During succeeding years various modifications of this were to completely supplant the socket bayonet and were to result in the modern type bayonet.

The now familiar sword or knife blade bayonet started coming into general use about the time of the introduction of the magazine rifle, just prior to the Civil War. These appeared in a variety of sizes and shapes—all the way from a sword-like affair with a 24-inch blade to short dagger types some 10 inches long. Some were saw-toothed while others had a curved saber-type blade. Quillons were either simple and straight or were curved to serve as a "sword breaker."

In any field there are always a few nimble brains who manage to come up with some sort of Rube Goldberg "improvement." The field of the bayonet offers no exception. One particularly tricky item consisted of a spring actuated blade which was hinged to fold back out of the way under the gun barrel. A mere touch of the finger and, presto! the blade snapped forward to be locked into place by a spring catch.

There were also repeated attempts to design a bayonet which could be used for a variety of purposes. A choice example was the *rod* bayonet. This appeared in several versions. One variety was a combination ramrod or cleaning rod and bayonet (actually little more than an extra long cleaning rod with a sharp point on one end) which locked under the barrel in somewhat the same manner as the old-fashioned ramrod or cleaning rod. Other special dual purpose bayonets included a saw-toothed job for the use of engineer troops and a spade-shaped blade intended to assist the long-suffering infantryman in digging himself in. Another item

Bettman

was a bolo-type blade for use in slashing through tropical growth. Most of these oddities were used experimentally in this country at one time or another, but they proved to be of worth mainly to collectors of military curiosities.

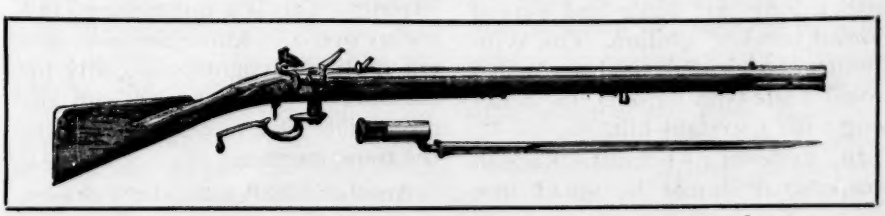
During recent times the flat, knife-blade bayonet, based on designs similar to the US Army model of 1905 and varying in length from 10 to 20 inches, has been used by the majority of nations, although for a while the French preferred a long, needle-type weapon.

The US model of 1915 had a length of 16 inches. The fore edge was sharpened along its entire length, and the rear edge was sharpened back 5 inches from the point. During WWII several nations reduced the length of the bayonet considerably, the US bayonet being reduced to 10 inches.

In view of the recent fighting in Korea, some mention of Russian bayonets is not amiss, inasmuch as Russian satellites are armed with USSR weapons, particularly with older models and types.

Russian bayonets may be roughly divided into 2 types, i.e., a rather long, 4-flute design with an old-fashioned sleeve socket, and the more conventional knife type.

In treating of bayonets of the



Bettman

Bettman

Russian School of the Bayonet — Czarist times

USSR, a very brief account of Russian rifles is in order. In various forms the Mosin, sometimes spelled *Moisin* or *Mouzin*, (named for its designer, Col S. I. Mosin, Imperial Russian Army, and adopted in 1891) has been the old reliable standby, first of the Imperial troops, then of the Soviet Army, for 63 years and is currently in use. In fact, all Soviet bolt action rifles and carbines are basically similar to the Mosin Model 1891.

During the First World War, in addition to the Mosin, the Russians used a variety of rifles, including the Japanese Arisaka Model 1907 and the American Winchester Model 1895.

The Mosin Model 1891 was provided with a long 4-flute bayonet, some 19 inches long. This had a sleeve socket which locked with a ring. It was quite similar in design and appearance to the sleeve socket Springfield bayonets of the American Civil War. No scabbard was provided originally, the bayonet being fixed at all times. What this did to the balance of the piece and the resulting effect on aiming is best left to the imagination.

The Arisaka was fitted with a knife bayonet of conventional design with a long, flat blade and curved "sword breaker" quillon. The Winchester Model 1895 used a conventional knife-type bayonet 16 inches long with a straight hilt.

In reviewing present Russian weapons, it should be noted that all rifles and carbines are not designed for use with a bayonet, but all bolt action types fitted with a bayonet do use essentially the same old model as was furnished for the Mosin Model 1891. However, some variation occurs in that some models have a pointed end to the blade, whereas others have a flat screw driver-like blade end. The bayonet for the Model 1891/30 rifle differs from the original in that it is fitted with a spring catch lock instead of a ring type lock. The Model 1944 carbine bayonet, although similar in design to the Model 1891, is permanently fixed to the carbine and is fitted to fold back against the right side of the stock when not in use. This idea of a folding bayonet has been experimented with by a number of nations but has always been discarded after a time. Just what the Russians think of the arrangement is not known. Its use, however, appears to be limited.

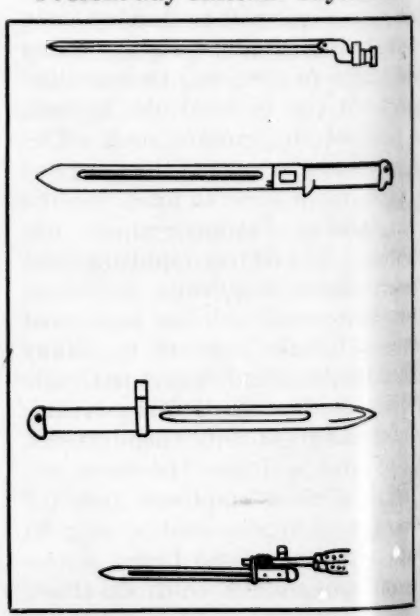
The first Soviet automatic and semi-automatic rifle was the 7.62 mm Simonov Model 1936. This weapon was far from successful and apparently was not used extensively. It probably is not encountered in the field these days and is mentioned here only in connection with its bayonet. This is a rather long (18.3 inches over-all), knife bayonet without quillons designed especially for the Simonov and not used with any other rifle. It attaches and locks in the usual manner.

Another USSR rifle, the Tokarev, is fitted with the conventional knife type bayonet, similar to the weapon used with the Springfield '03, except that the catch is located at the rear of the bayonet grip instead of on the front. Earlier models were some 15 inches over-all. Later models, in keeping with WWII trends in England and the United States, are much shorter.

Almost since its origin there has been considerable discussion, more particularly among writers and historians than among strictly military men, as to the real worth of the bayonet. Some maintain that its greatest usefulness was restricted to the days of muskets and mass tactics, before long range weapons made a major change in the concept of warfare. One school of thought argues that it never did amount to much as a weapon, while another school expresses the opinion that, although the bayonet may not be as important as it once was, its retention in the foot soldier's arsenal is justified, if only as a defensive weapon in hand-to-hand fighting. This group insists that the weapon has a very definite morale value if nothing else. Although it does appear that any future improvement of bayonet design is definitely limited, it seems rather certain that just as long as there remains any possibility of personal combat and hand-to-hand fighting, the blade fixed to the end of the rifle will be of some value to the man actually armed with it, regardless of what some "thinkers" may opine.

US MC

Present-day Russian bayonets



the observation post

THE HART OF THE MATTER . . .

BUCKINGHAMSHIRE, ENGLAND—I read with much interest Mr. C. S. Roberts' article entitled *A Rebuttal to Liddell Hart,* and appreciated the courtesy with which his "disagreement" is expressed. But at the end I was left wondering in what respect there was any real disagreement on his part, as distinct from some misunderstanding. It seemed to me that his article might more aptly have been entitled *A Follow up. . .* For, except in being given different names, his positive proposals at the end did not differ from mine, while usefully supplementing them.

In the previous part of his article, dealing with my suggestions for a dynamic fluid defense by battle-groups in controlled dispersion, misunderstanding is evident when he describes it as "a similar method" to what has been termed "Web defense" (and by Mr. Roberts, as "Cobweb defense"). For the very terms "dynamic" and "offensive fluidity of force," which I used, should have shown that my proposal was *not* for a static defense "limited to defending a given area" as Mr. Roberts conveys. Your illustrator, who worked without any guidance from me, understood this and brought it out clearly in his diagrams accompanying my article—so Mr. Roberts's misunderstanding of it is all the more surprising, especially in view of the good grasp shown in his positive proposals.

As to his changes in nomenclature, it is questionable whether his choice of alternative names is an improvement, and more likely to prevent misunderstanding. He calls the basic concept "Fog Defense." While aware from experience of the drawbacks of using any descriptive term and simile, it seems to me that the term "Fog Defense" fails to convey the idea of *offensive* defense by *fluid* action—even as well as the simile I used: "to operate like the sea or a swarm of bees." For although "fog" has confusing effect, the word does not suggest dynamic action or crippling effect.

Moreover, the new concept is not made easier to understand by adhering to the old term "mass," and trying to use this in a radically different sense from its natural and proper meaning. Mr. Roberts himself admits that the term "conveys a mental picture of clogged highways, jammed orchards, soldiers standing shoulder-to-shoulder"—and then lamely adds: "This does not necessarily have to be the case." But doesn't it? The dictionary gives the meaning of "mass" as "a dense aggregation" of particles or objects "sticking together so as to form one body." Thus, it is not reasonable to expect that the soldier should think of "mass" in the opposite sense, as a loose grouping of units that keep apart—as they must if they are to survive on atomic battlefields? The term "controlled dispersion" seems more applicable and intelligible.

The pitfalls of obsolete terminology and the persistence of obsolete concepts are also evident in the opening part of Mr. Roberts's article. Here he declares that "the first great area of disagreement" between us is the value I have come to put on effective defense, which he considers mistaken because it is "impossible" as a basic concept for "winning a war." In his view, "defense must always be considered only as a prudent and necessary halt in the attack in order to gain advantages—time, space, supply, replacement, reinforcement."

That view is all too familiar—and has been a source of many avoidable disasters in the past which could never be fully retrieved. It led the French *Ecole Superieure de Guerre* before the last war to devote 13 of the 15 exercises in its course to the offensive, on conventional lines, and to neglect the study of the defensive (a *fact* which explodes the prevalent myth that French military leadership suffered from being too defense-minded). The natural outcome was that the French defensive technique in 1940 proved hopelessly unfitted to meet the new offensive technique that Gen Guderian had developed with the German Panzer forces army. As he ascribed this offensive technique to my teaching, I have particularly good reason to know how it could have been foiled by an equally new defensive technique. But French military doctrine and training was never adjusted to the inevitably defensive basis of French national policy—and the gap proved fatal.

As for the phrase "winning a war," it only makes sense if the victors' situation after the war is better as a result. That is the only real gauge of success in achieving the object of their policy. The blind pursuit of overwhelming and complete victory in the military sphere has repeatedly led to the nullification of the political object, owing to the damage and exhaustion incurred in the needlessly excessive effort. By contrast, when there has been more moderation in the military aim, a more advantageous and more enduring peace has often been attained.

Mr. Roberts says he cannot find an example in history "where a defense has consistently thwarted a determined, aggressive attacker to the point where the defense has won the conflict." His search cannot have gone very far. If he even examined such a classic as Sir Edward Creasy's universally known book *The Fifteen Decisive Battles of the World,* he would find that in 80 per cent of them the defender was successful, both in the immediate military sense and in the ultimate political sense.

A widened study of other battles and campaigns in history which proved really decisive confirms that proportion. It will also be found that in the majority of cases the defender achieved the ultimate national object without pursuing the battle success so far as to fulfil the dictum of *Field Service Regulations* that "the ultimate objective of all military operations is the destruction of the enemy's armed forces."

By contrast almost all the great "aggressive attackers" since Alexander have ended in dismal failure—Pyrrhus, Hannibal, Frederick the Great, Napoleon, Ludendorff and Hitler are among the most famous examples.

For a pattern of truly successful defense it is worth studying the East Front campaigns of Belisarius—whom Field-Marshal Wavell bracketed first among the "Great Captains" of all history. The dynamic defensive technique which Belisarius developed became the basis of the East Roman Empire's successful maintenance of its position during the centuries that followed—while the West was being engulfed by the waves of barbarian invasion. That Empire did not begin to crumble until 500 years later, and then as a result of the rashness of the soldier-Emperor Romanus Diogenes who, seeking to destroy the rising power of the Turks, rashly embarked with an unready army on a far-reaching offensive campaign, and pressed it fatally far.

The growth and long life of the British Empire likewise owed much to reliance on a dynamic defensive, based on seapower, and restraint in political aim when at war. Starting with the repulse of the Spanish Armada, England beat off a series of attackers who tried to invade her or assail her interests abroad, but refrained from pursuing any war to the bitter end. In the process, her power and prosperity grew, wherease her rivals—Spain, Holland and France—broke down in turn from self-exhaustion in war, caused by excessive efforts in pursuit of immoderate aims.

But after practicing moderation and economy of force in war for 300 years, the British were led to commit themselves in the 1914-18 war to an unlimited aim and all-out effort. The ultimate "victory" left them temporarily bankrupt and permanently weakened. A repetition of such aim and effort in the next war brought worse exhaustion, and a worse state of peace after "victory."

Entering the 1914-18 war at a relatively late stage, and operating from a distance, the United States avoided its exhausting efforts—just as Britain had often done when taking a hand in former continental struggles. Even in the next war, America's entry did not take place until the third year, while the immensity of her resources compared with other countries, and immunity of her homeland from attack, helped to offset the subsequent strain of pursuing the unlimited aim. But "victory" left her with much heavier burdens, while having to face a fresh and greater menace—which was the natural sequel to the complete destruction of Germany's forces and their power to keep Soviet Russia in check

If another war should occur, the United States is likely to be in it from the outbreak, and the homeland itself within range of destruction by nuclear weapons.

Since the explosion of the first hydrogen bombs, both the air chiefs and the scientists have repeatedly stated that unlimited war with such weapons *"would be general suicide and the end of civilization as we know it"*—to quote the verdict of Marshal of the RAF Sir John Slessor, endorsed by many other high authorities.

Military thinking has been rather slow in adjustment to this basic fact. Even late in 1954 Field Marshal Montgomery was still talking, like Mr. Roberts, in terms of "winning the war" and of "bringing the war to a successful conclusion." But in his lecture recently in *Organization for War in Modern Times,* he ended by saying: "the words 'win' or 'lose' no longer apply to contests between nations which have nuclear power of any magnitude. . . I have been studying nuclear war for a considerable time and I have come to the conclusion that man will have it in his power in the future to destroy himself and every other living thing on this planet. . . . Our aim must be to prevent war; the prospect of winning or losing is not a profitable subject."

In the atomic age, "a basic concept for winning a war" is utterly out of date and makes no sense. The attempt to gain a "victory" over the enemy and compel him to surrender, would be the surest way to produce general suicide. The only sane concept, if we should fail to prevent war, is that of *repulsing* the aggressor — so effectively that he abandons his purpose. For the fulfilment of this concept, the urgent and vital need is to develop an up to date and efficient method of defense by non-suicidal means.

B. H. Liddell Hart

URBANA, ILL. — In recognizing the originality of the catch phrase "Fog Defense" as profferred by Mr. C. S. Roberts, it may best be observed that he has called a rose by another name. The defense technique he has suggested was successfully applied by both German and Russian Armies on the Eastern Front during WWII. When thrown on the defensive, they assumed so-called "hedgehog defenses" which consisted of strong fortified camps with lesser hedgehogs between. A strong mobile force was retained to destroy the enemy forces that had penetrated between these strong points.

However, there remains the undeniable fact that these defenders had a limitless landscape on which to affect a defensive design aimed at smothering the offensive initiative. This vast plain was almost void of key terrain features, the attainment of which would have given the advantage to the attacker. Loss of a limited dimensional space was insignificant to these defenders whose self-contained units could whirl and explode in unpredictable directions. These dervish battalions could always fade into the far reaches of the Russian Steppes to escape annihilation. Having nothing to lose, Russian commanders could well afford to allow these independent units to slitter and slide across the German pincers, which eventually dulled closing on themselves in the vain attempt to snip these illusive units.

On the contrary, however, these same Russians in the attack across the Rhine would not find the vast, unbroken, unrippled terrain that characterizes their homeland. The defenders in the NATO sector of the European Fortress could not indulge in relinquishing key terrain features to strike elsewhere. To summarily inflict casualties and then detach themselves from contact would sacrifice space and objective areas that would subsequently further the operational design of the Red invaders. To award terrain to the attacker of the NATO bastion would eventually leave him with the high ground that overlooks the beaches of the English Channel.

It would soon become apparent to the defenders that to avoid another Dunkirk they must select the most propitious and defensible terrain and hold it. While the Fog Defense would be effective in the early phases of the war, it would be well to consider the eventual conclusion and establish a series of connected strong points tying those key terrain features which must be held. Then the attacker would be forced to group his assault units and expose himself to the nuclear fire that Mr. Roberts feels is exclusively the weapon of the attacker.

Maj J. L. A. Lembeck

PHIB PAC, SAN DIEGO, CALIF. — Mr. Roberts and Capt Liddell Hart are not as far apart as advertised. This is a case of going so far as to the right that one meets people from the left, or vice versa. In essence, both of these fine writers have based their theses on space, speed and flexibility (both stressed fluidity in one form or another). More important, both have set patterns which will require a degree of battlefield control and the accompanying techniques far beyond anything we have yet attained. Among the many problems posed by both of these thought-provoking articles, two concern me more than the others (brushing aside purely technical considerations):

a. How are we going to teach our field forces to operate in small units, independently, alone and with great individual initiative when our very civilization is based on a degree of interdependence hitherto unknown, and in this world of technocracy and increasing automatization, getting more interdependent every day? Simply stated the problem is one of imposing the mental and physical characteristics of an Indian Scout on a Roxy Theater usher. (The only thing they have in common is an ability to see well in the dark!) In short, the demands on low-level leadership and individual initiative imposed by the Hart-Roberts concepts will require ground forces in which every man is a Kit Carson. If this be the case, we had better get on with it — in a hurry.

b. On what piece of real estate are we going to operate? Both of these concepts visualize a vast maneuver area (probably in excess of several hundred

miles per side) in which we raid, live off the land, atomize and raise Merry Ned in general, to the immense dissatisfaction, if not downright annihilation of the local populace. This may not disturb our enemies but it will certainly dismay our allies. About the only solution to this dilemma is the capability for early attack or counterattack of the enemy heartland, and all that it implies in complete control of the seas and the air. One of a few purely offensive means remaining in our military posture is our amphibious capability. Is it getting the attention and emphasis in a national sense that it deserves?

Col A. L. Bowser

ALEUTIAN NOTES

CAMP PENDLETON, CALIF. — The 1st Bn, 1st Marines left Camp Pendleton for the Aleutian Islands early this year to conduct a battalion-size practice raid. During the month of November of last year I was informed that my company would serve as Aggressor.

The Aleutian Islands are a desolate chain of wind-swept volcanic peaks that rise abruptly from the cold grey waters where the North Pacific mingles with the Bering Sea. Although not extremely cold in the winter, the elements there have combined in such a way as to produce probably the most miserable weather conditions found anywhere in the world. The temperature fluctuates slightly above and below freezing. Precipitation is heavy and falls either as wet snow or sleet. Winds whip the stunted willows and sparse reindeer grass constantly. Gales of 60-70 knots are not uncommon and blasts up to 100 knots are not unusual. These winds make the effects of the temperature much more severe than they normally would be. Moss and tundra bogs are common in the draws and low ground. There is no sizeable vegetation, and the ridges and high ground are bare volcanic rock covered from time to time with several inches of snow. To complicate movement over the bogs and rugged ridges, there are numerous glacial streams to impede foot and vehicular traffic.

While we were ashore and operating for 4 days at Makusian Bay, Unalaska, we learned lessons and made observations which I think would be of assistance, and in some cases, necessities for any unit operating in similar climatic conditions in the future.

To equip ourselves for Aleutian weather we carried normal Marine Corps cold weather clothing. Preliminary training at the Cold Weather Battalion, Pickle Meadows, Calif. in December, however, showed us that we needed something more than the water repellent inter clothing or the poncho to protect us from the wet. Standard cold weather clothing was designed primarily for dry cold, and the water repellent material soon became a serious hazard in any kind of wet snow or sleet. To combat this threat, we brought, in addition to the cold weather clothing, Navy foul weather gear, which consists of a water proof set of coveralls and parka with hood. We found that this water proof clothing; when worn over winter underwear, cold weather trousers and a flannel shirt; kept us very comfortable while moving. The Navy foul weather gear kept us dry and also was excellent for breaking the persistent winds. At night or when movement stopped, the M1951 field jacket with liner was added under the water-proof parka. The Navy foul weather coverall-parka combination served us so well that I feel the suit should be made part of normal Marine Corps cold weather gear, and it could even replace the poncho if it were modified by installing a fly and several large pockets with button-down flaps in the coveralls.

From our experience on Unalaska, we found only one Achilles Heel in our uniform after donning the outer water-proof layer. Each man had leather gloves with two sets of inserts and cold weather mittens with two sets of inserts. Either type soon proved to be inadequate for protection of the hands in wet cold. Both gloves and mittens soon became wet and therefore useless. Hands, like feet, are most susceptible to frostbite. The foot problem has been satisfactorily solved with the thermal boot, but we need a water-proof shell for hand wear to complete the individual's protection from cold injuries in sub-arctic climates. This water-proof hand wear does not have to be a glove. A mitten form with trigger finger would be more practicable because even with leather gloves on, a man is forced to remove them to perform fingerwork, and the mitten will keep a man's hands warmer than gloves.

In any prolonged operation in Aleutian climate which may necessitate a man being exposed for 24 hours or more, he needs shelter. The constant wind, snow and wetness saps a man's strength quickly, and he needs some place where he can escape from the wind and warm himself. We found that 20 hexagonal tents served this shelter requirement for a rifle company. Naturally they were crowded, but this was an advantage in that body heat alone was sufficient to keep the tent warm. We did use Yukon stoves in some of the tents, but in addition to their bulk, they do not heat a hexagonal tent sufficiently well in high winds to merit putting up with the problem of transporting 5-gallon cans and drums of diesel fuel necessary for their continued operation. A single burner mountain stove puts out far more heat for its size than the Yukon stove. It is more useful for heating rations, and presents a negligible supply problem. Every fire team leader should carry this type of stove. The time used to heat 4 men's rations on a mountain stove will warm a hexagonal tent to a comfortable degree.

Although the hexagonal tent serves as excellent shelter in cold wet weather, the short aluminum stake that comes with the tent is not adequate for the securing of a tent in high winds or when setting up camp in a tundra area. The 24-inch barbed wire stake, however, proved to meet all requirements. It is long enough to hold against the worst winds, and it can be sunk deep enough to secure a tent firmly in the spongy tundra or moss bogs.

Six Otters were the only mode of transportation used by the Aggressor company and they proved to be superior in every respect to any other type vehicle used in the operation. In any operation in the sub-arctic, a rifle company should have 4 Otters at its disposal for carrying tents, rations, ammunition and wounded. Their size and trafficability in Aleutian terrain make them ideal as a multi-purpose vehicle.

Movement in snow and in the face of high winds is difficult enough without the added burden of a heavy pack containing a complete change of clothing, sleeping bag, poncho, etc. A Marine has to be able to move fast, and he can only do this by carrying a maximum load of a weapon, ammunition, dry socks and one or two meals of C rations in his pockets. When things slow down or there is a halt for the night, 4 Otters can get all the gear, including tents and packs up to the reverse slope in a hurry.

The most important thing we learned on this operation was the confidence gained in being able to exist comfortably and operate effectively in some of the worst weather the Aleutian Islands had to offer. I believe that this ability resulted largely from our preliminary training at the Cold Weather Battalion. When we landed in the Aleutians, each man knew generally what to expect. Junior officers and NCOs remembered leadership problems peculiar to cold weather that they had faced at Pickle Meadows. Every man remembered clearly the small but important problems of living in cold weather — problems that can not be effectively taught in a warm classroom.

Capt R. C. Schulze

passing in review

BOOKS OF INTEREST TO OUR READERS

deSeversky Rebutted . . .

AIR POWER — Asher Lee, 200 pages. New York: Praeger. $3.75

It took several years to find an objective writer equipped with the analytical mind and the word-welding talent needed to take Mr. Alexander de Seversky and his *Air Power: Key to Survival* to task, but Asher Lee and his *Air Power* were worth waiting for.

For this English author in re-evaluating the aspects of past, present and future air power does much to put it in its proper perspective. Not that this book underestimates the impact of air power in future wars. Mr. Lee recognizes that "air power was a decisive factor in the defeat of both Germany and Japan," but he emphasizes that air power is "conditioned by the number of high-grade machines and crews and the amount of modern equipment available to do the job at hand" and ". . . weather, enemy strength, enemy intelligence and a host of other unpredictable factors influence the effects of air power."

The author believes that de Seversky — who branded the aircraft carrier a "military monstrosity" that represents a "prime example of strategic folly and Navy desperation" — and his converts are guilty of unrealiistic, overstatements when they advocate the "virtual elimination of US overseas strategic commitments and the general plea for a strengthening of America's land-based strategic bombers." Mr. Lee feels that no one — particularly the military man of today — sells the role of air power short, but he insists that one must also underline "the inability of air power to do more than circumstances allow."

"The future of air power is both uncharted and unchartered," he says. "All one can say with certainty is that it will become even more important in the balance of military arms than in the past."

These factors lead to the author's prime objective in writing *Air Power*. He advocates greater flexibility in the use of air power. To illustrate this need he devotes a separate chapter to each type of air operation — strategic bombing, air defense, reconnaissance, parachute and airborne troops, transport aircraft, close air support and naval air power. In each he first points to the lessons that can be learned from Korea and World War II, and then tries to assess the role which each type operation might play in a future war. Subsidiary chapters on air intelligence and the problems of combining the services warrant serious thought. And, finally, he draws the threads together, surveys the revolutionary changes in air weapons, and makes a few calculated guesses about things to come.

All in all, *Air Power* is a provocative book which merits close scrutiny. The author has a knack for presenting statistical data in a readable style. His work as a member of the air intelligence staff of the Royal Air Force during World War II undoubtedly sharpened his analytical ability. His previous books, *The German Air Force* and *The Soviet Air Force,* indicated he might be considered an expert in analyzing the structures, capabilities and limitations of air power. This book confirms that.

Reviewed by Maj T. J. Saxon

Not So Quiet in the Rear Ranks . . .

THE REVOLT OF GUNNER ASCH — Hans Hellmut Kirst (Translated from the German by Robert Kee.) 311 pages. Boston-Toronto: Little, Brown and Company. $3.95

The Revolt will inevitably be compared to Erich Maria Remarque's classic *All Quiet on the Western Front.* Both novels were published in English translation by the same publishing house 10 years after a World War. Both were written by men who served in the German army. *All Quiet* was a profound study of the horrors of war. *Revolt* is an equally profound study of the horrors of peacetime garrison duty.

The Revolt's astronomical European sale — 1,200,000 copies to date — seems to confirm the fact that lightning does strike twice. There is lightning in this novel. And thunder.

All Quiet was a long, bleak vehicle that lumbered out of oblivion, picked up the crushed, forgotten German soldier of World War I and tenderly transported him off to the Teutonic Valhalla. *The Revolt* is a hearse of a different color.

It took a writer of Remarque's stature to convince a hostile world that the Kaiser's legions were not half-mad, blood-drenched automatons. Kirst succeeds, at least as well, in humanizing the men of Hitler's Wehrmacht.

Author Kirst does not yet have Remarque's power, but he is by no means a literary featherweight. His vivid character delineations stun. His humor is deft and subtle as a well executed left jab. His dialogue is as harmless appearing — and potentially as explosive — as a roundhouse right.

The Revolt's cast are as familiar (and as stereotyped) as the good-guy, bad-guy, virtuous-girl and the sheriff-and-posse of a Western. But, as Jack Schaefer's masterpiece *Shane* proved, there's still gold in even the most well-worked literary hills for the skillful, compassionate writer.

Kirst's hackneyed characters come to life before the reader's disbelieving eyes. The swaggering bully, Sergeant Major Shulz, snorts, roars and generally hams it up for 311 pages but is never for an instant unbelievable.

Sensitive, conscientious Gunner (Private of Artillery) Vierbien, for whom military life is one long Boot Camp, does the best he can until his lot becomes unendurable.

A harmless martinet, Corporal Lindenberg, the type who has to click his heels together in the morning to get his brain started, is Kirst's most vicious caricature and should satiate even the most rabid conscientious objector.

Elizabeth Freitag, the beautiful young fraulein who loves Gunner Asch and is not above proving it, injects a much-needed note of tenderness.

With the character, Lore Shulz, the Sergeant Major's predatory bride, Kirst perhaps accomplishes his finest tour de force. She is at once repulsive and desirable; hard as carborundum and soft as a caress. Faithful to no man yet, incredibly, she remains faithful to all — and to herself.

Gunner Herbert Asch marches methodically through the first portion of the novel with the detached air of a disenchanted choir boy. It is only when he realizes, with revulsion, the stupidity of the system that threatens to destroy his identity and decides to fight back, that he takes on depth and dimension. But he is hard pressed to keep two skillfully drawn characters — Lieutenant Wedelmann and Major "Lump-Face" Luschke — from stealing the book.

That Asch, a not altogether sympathetic character, manages to carry off the author's ambitious undertaking, typifies Hans Hellmut Kirst's budding genius.

Reviewed by MSgt C. R. Barrow

The Little Corporal's Thoughts . . .

THE MIND OF NAPOLEON — edited and translated by J. Christopher Herold, 281 pages. New York: Columbia University Press. $5.00

Under 13 broad subject headings the editor has capsulized a wealth of the opinions and points of view expressed by Napoleon gathered from writings, conversations, government orders and a variety of other sources of the period. He has cataloged his material strictly on the basis of subject matter and thereby provided the reader with a lively and valid source from which to sense the direction — or indirection — of Napoleon's persuasions.

From "The Human Heart" through "Law and the Social Order," "Science and the Arts," to "The Art of War" the reader may get pure, uneditorialized Napoleonic opinion, identified chronologically and, where appropriate, by special circumstances surrounding its pronouncement.

Certain purposes of history and biography may be sacrificed by the subject heading format of the book but these losses are more than compensated for by the clarity of thought on individual subjects which the format provides.

It was not a purpose of the editor to exalt the memory of the subject. The arrangement of the book makes Napoleon appear to have had a hundred divergent and mutually unsupporting opinions on any given subject. To interpret these divergences fairly, the reader must be constantly aware that though the contrasts appear side by side in the book they are in many cases separated by as much as 30 years in time. Often they are also separated by huge differences in the status of their author. This is most clearly and humorously true in the section dealing with Napoleon's opinions on law. As Emperor, he espoused a stern, "guilty until proven innocent" philosophy but, as a prisoner of the English, he saw great merit in the principle of Habeus Corpus.

The "Art of War" section of the book provides a link with Napoleon's time. Logistics instructors will grieve to learn that he never alleged that an army travels on its stomach — at least not in so many words. A certain contemporary military element will bridle to read his opinion that, "Conscription forms citizen armies. Voluntary enlistment forms armies of vagrants and good-for-nothings." This same element will be considerably placated to read later on that, "Five things there are from which the soldier must never be separated: his rifle, his cartridges, his field pack, his rations and his digging tool."

An editor, author and translator, Mr. Herold has written a book upon which a reader can contemplate with profit and draw conclusions without doubting the honesty of their source. Such qualities do great credit to Mr. Herold's work.

Reviewed by Maj R. H. Kern

Last Monograph . . .

OKINAWA: VICTORY IN THE PACIFIC — Major C. S. Nichols, Jr., USMC, and Henry I. Shaw, Jr., 332 pages, illustrated. Washington, DC: US Govt Printing Office. $5.50

Just as the finely tuned fighting machine of the United States reached its epitome of perfection in the Okinawan campaign, so has the Historical Branch of the Marine Corps in the final operational monograph in the WW II series.

The authors have presented a thorough, impartial and excellent account of the actions of the III PhibCorps as part of Tenth Army in the capture of this largest of the enemy's strongholds. Commencing with a brief review of strategy for the reduction of the Japanese Empire, the reader is rapidly passed through the planning stages which lead to the landing on the Hagushi Beaches, Easter morning 1945.

It is often difficult for a Marine serving with an operational unit to appreciate the activities of the numerous echelons of command directing his actions. In this edition, the authors follow the progress of both operational and logistical activity of the Army, Navy and Marine Corps from planning on the highest level to the movements of the infantry in the Okinawan mud.

Since Marines were fighting directly beside Army units as a major component of the Tenth Army, Army activities are treated with sufficient detail to reflect the Marines' contribution to the overall mission. However, the amount of Army action described is considerable and in many aspects — such as the 77th Inf Div's seizure of Kerama Retto which is much more detailed than the Army's own history of the campaign.

At Okinawa, Marine components were faced by new challenges in addition to the long familiar problems of bad weather, the usual complexity of an amphibious operation and a resolute and cunning enemy employing his defensive tactics masterfully. Here, in addition, we were faced with the problems of operating over a land mass of considerable size against an enemy fighting within his own empire amongst a large, sympathetic civilian population. When closing the rear cover of this monograph, the reader feels he, too has faced and solved these new challenges.

During the two years devoted to the research in the preparation of this monograph, access was made to a multitude of references. These include the numerous Marine, Army and Naval officers who participated in this action, the after action reports of all participating units of all services, as well as reports derived from the translation of Japanese documents and the interrogation reports of Japanese survivors. The latter information, particularly the divergence of opinion between LtGen Cho, Chief of Staff of the Imperial Japanese Thirty-Second Army and Col Yahara, the senior staff officer, offer some explanation to the enemy "modus operendi." The frequent reference to these authorities throughout the edition adds realism and authority to the publication.

The authors write from a vast background of professional experience. Major Nichols, in addition to almost 20 years' service with the Marine Corps, is recognized as an authority of military history. Mr. Shaw served in the Okinawan operation as a member of the 1st MarDiv, and was formerly on the staff of the MARINE CORPS GAZETTE.

Reviewed by LtCol L. F. Treleaven

Quiz Kid . . .

FRAGEBOGEN (The Questionnaire) — Ernst von Salomon, 525 pages. Garden City, New York: Doubleday & Co., Inc. $4.75

On the morning of 24 June 1922 Walter Rathenau, the German Foreign Minister, was being driven by his chauffeur to his office from a suburb of Berlin. Suddenly, a car containing three young men drew alongside and one man fired several shots at Rathenau, mortally wounding him. This political assassination, one of an estimated 350 that took place in Germany between 1919 and 1923 was planned and carried out by a group of young ultra-nationalists known as "Organization C." Among those convicted of this murder was the author who received a 5-year prison term for his part in the plot.

In essence, this book is von Salomon's autobiography, told through the medium of answers to the Fragebogen, or questionnaire, which all Germans suspected of having directed, assisted or collaborated in Nazi war crimes were required to complete and submit to the Allied Military Government. The purpose of the questionnaire was to determine the extent of participation in, and responsibility for, these war crimes and to exclude such persons from the administration or future government of Germany. As can be readily seen, conducting a written examination of 131 questions is hardly a reliable method

For Members of . . .

The Marine Corps Association

AUTOMATIC RENEWAL FORM

In order that I may keep abreast of professional activities and ideas within the Marine Corps, renew my membership in the Association and bill me for dues incurred:

☐ Annually $4.00 ☐ Every 2 years $7.00 ☐ Every 3 years $9.50

Rank _____ Name _____ Ser # _____

Address _____

City _____ Zone _____ State _____
(please print)

If you should change your address, please notify us immediately by sending both the new and *old* address.

As a member, or honorably discharged member of the US Armed Forces you are eligible for regular membership in the MARINE CORPS ASSOCIATION. Members receive, in addition to the journal of the Association, the Marine Corps Gazette, the special discount on bookshop purchases.

MARINE CORPS ASSOCIATION, MARINE CORPS SCHOOLS, QUANTICO, VA.

The Uniform Shop

MARINE CORPS EXCHANGE

OPERATED BY
Jos. A. Wilner & Co.
Custom Tailors since 1897

Now your choice of a Wilner uniform individually tailored to your exact measurements . . . or complete selection in stock of ready-to-wear sizes. Fully approved regulation fabrics—tailored with the "know how" gained in serving Marine officers for three generations. Terms gladly extended. Mail orders promptly filled. Visit us or write for prices.

THE UNIFORM SHOP • ***MARINE CORPS EXCHANGE***
Operated By JOS. A. WILNER & CO. **Marine Corps Schools, Quantico, Va.**

to determine the individual or collective political and moral responsibility of a nation. Basing his attack on this piece of naivete, von Salomon rips the Fragebogen (and Allied Military Government) apart with cynicism, mockery and frank answers which clear the author of responsibility — but at the same time expose him as a cynical opportunist who would have the reader believe he was merely a detached observer.

In actuality, von Salomon has had his moments of violent action as indicated by his participation in the murder of Rathenau, which he passes off as a bit of misguided boyish enthusiasm. Passivity is hardly indicated by his membership in the *Freikorps* which took part in the fighting against the Poles and Russians on Germany's eastern frontier in 1920 and 1921. He also wrote an authoritative account of the *Freikorps* movement in 1930 which later received official approval from the Third Reich as a "document of the struggle of the rebirth of the Nation."

Born in Kiel in 1902, von Salomon prepared for a career as an officer in the Imperial German Army, but the defeat in 1918 destroyed all hopes for this future. Instead he joined the *Freikorps* and after the cessation of fighting in the East took part in the activities of "Organization C," which resulted in his serving 5 years in prison. Upon his release, he made his last venture into politics by helping to organize, with other revolutionary nationalists, the peasant revolts in Schleswig-Holstein. From 1930 to 1945 he wrote novels and was a script writer for the German film company, UFA. Ironically, he was turned down for military service in 1939 for political unreliability because of his youthful activities with the *Freikorps* and "Organization C," and in 1945 was interned by AMG for his part in the murder of Rathenau, though later released in 1946.

This book is an important one from the standpoint of being an intimate history of Germany from 1920 to 1946. Even more important is the fact that it probably represents widely held views in present-day Germany, a Germany we try to persuade ourselves that is truly democratic in the American sense and a trustworthy partner. *Fragebogen* was written for a German audience and represents a distinct change from the usual post-war apologia to a skillful attack against the Western powers and the US in particular.

It is a brilliantly written book, but in the final analysis von Salomon never faces up to or answers the ultimate question of responsibility for which the Fragebogen was created.

Reviewed by Capt A. B. Cook

More on Missiles . . .

GUIDED MISSILES IN WAR AND PEACE — Nels A. Parson, Jr. 161 pages. Cambridge: Harvard Univ. Press. $3.50

It is a rare issue indeed, wherein a newspaper or magazine does not present an article devoted to, or at least including the subject of guided missiles.

Despite this public attention, the average citizen, who recognizes the appearance and function of such more prosaic weapons as howitzers, tanks and jet interceptors, is quite in the dark about guided missiles — at least what they can do and what they can not. The statements, both official and off-the-record, of military leaders, politicians, industrialists and newspaper columnists, usually rather confuse than clarify the subject, generally being deliberately partisan, and cloaked in military secrecy.

Rather fortunately for the reader, among the first volumes to be published is *Guided Missiles in War and Peace,* written by Maj. Nels A. Parson, Jr, assigned to Combat Developments at the Continental Army Command. His handling of the descriptive aspect of guided missiles is exceedingly readable, as it is developed from material prepared to give Army graduate students background knowledge as an introduction to more sophisticated courses.

The author's second theme, the impact of guided missiles on military strategy, might or might not be palatable to the reader, military or civilian. Obviously, our strategic thinking in the premises is subject to revision as we gain experience, not only in the military applications of these weapons, but the economic and political implications as well. Nor can an unclassified publication be the vehicle for definitive presentation of such all important strategic plans involving such weighty problems as thermo-nuclear warheads. The discussions, however, are reasonable and considerations catholic — treating military requirements in the light of land, sea and air warfare per se, rather than along the organizational lines of the Armed Forces. The reader is free to draw his own conclusions, but he will generally agree with Maj Parson.

Reviewed by LtCol E. A. Dueber, Jr

Flying Saucers . . .

THE REPORT ON UNIDENTIFIED FLYING OBJECTS — Edward J. Ruppelt. 315 pages. New York: Doubleday & Co, Inc. $4.50

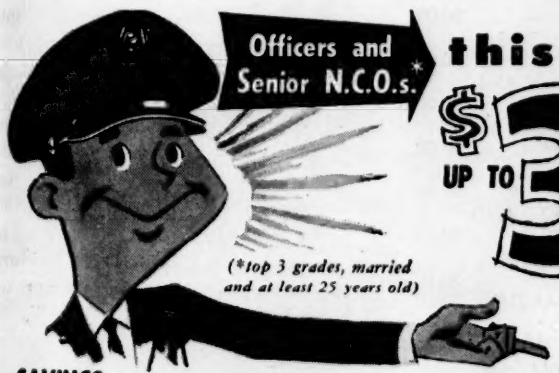
This is a book about flying saucers — at least, that is the publicly accepted term for them. In official terminology, they are "Unidentified Flying Objects."

The author and his staff investigated some 4,400 sightings that were reported from June 1947 (when the terminology "Flying Saucer" was first used) until September 1953. The author estimated that not more than 10 per cent of the actual sightings were ever reported during that period. Reports ranged from frantic "I-saw-it-over-there" telephone calls to detailed reports wherein objects had been seen, tracked by radar, photographed and even further checked by radiation detection instruments.

No attempt has been made to state positively that the UFOs are (or are *not)* spaceships. The author has attempted to lay bare all the evidence that has been collected so that the reader can decide for himself. He has succeeded in making interesting reading out of a huge number of similar reports. In view of this similarity, the book is understandably repetitious.

The author, Edward J. Ruppelt, is an Air Force Reserve Officer. In civilian life, he is research engineer for Northrup Aircraft Co. He was on active duty from 1950 to 1953. During most of this period, he was in charge of "Project Blue Book," established by the Air Technical Intelligence Center, to investigate these phenomena.

Reviewed by 1stLt C. H. Strandberg



this COUPON can SAVE YOU

UP TO $30 OF EVERY $100

YOU SPEND ON AUTO INSURANCE

SAVINGS You save up to 30% from standard rates because you eliminate from your premium the cost of maintaining the customary agency system and all membership fees.

30%

SERVICE You are protected by the Standard Automobile Policy. You also enjoy immediate claim service from over 650 professional claim representatives located in every sizeable city in the U. S. and its possessions.

OVER 650

SECURITY Year after year, 98 of every 100 policyholders renew their auto insurance with Government Employees Insurance Company. Experience has proven to over 350,000 policyholders that there is no finer insurance at any price.

98 OUT OF 100

GOING OVERSEAS?

GOVERNMENT EMPLOYEES INSURANCE COMPANY
Capital Stock Company not affiliated with U. S. Government
Washington 5, D. C.

GOVERNMENT EMPLOYEES INSURANCE COMPANY
GOVERNMENT EMPLOYEES INSURANCE BLDG., WASHINGTON 5, D. C.

Name ..... Age .....
☐ Single ☐ Married (No. of children .....)
Residence Address .....
City ..... Zone ..... County ..... State .....
Location of Car ..... Rank or Grade .....

Yr.	Make	Model (Dlx., etc.)	Cyl.	Body Style	Cost	Purchase Date ☐ New / / ☐ Used

1. Additional operators under age 25 in household at present time:

Age	Relation	Marital Status	No. of Children	% of Use

2. (a) Days per week auto driven to work? ..... One way distance is ..... miles.
(b) Is car used in any occupation or business? (Excluding to and from work) ☐ Yes ☐ No
3. Estimated mileage during next year? ..... My present policy expires ..../..../.....
Include information and rates on overseas insurance in country of .....

066

MAIL TODAY FOR RATES
No Obligation • No Agent Will Call

PROFESSIONAL READING LIST

Books available through the Gazette Book Shop, compiled from the Senior School Reading List.

Category I

Military, Air and Naval—General

1 THE CENTURY OF TOTAL WAR, *Raymond Aron* $5.00
2 MILITARY MANAGEMENT FOR NATIONAL DEFENSE, *John R. Beishline* ..... $6.00 Text ed: $4.50
3 AMERICA'S MILITARY POLICY: ITS DEVELOPMENT SINCE 1775, *C. Bernardo and Eugene H. Bacon* $5.00
4 A GUIDE TO NAVAL STRATEGY, *Bernard Brodie* $4.00
5 ON WAR, *Karl von Clausewitz* $5.00
6 PRINCIPLES OF WAR, *Clausewitz* $2.50
7 FIFTEEN DECISIVE BATTLES OF THE WORLD, *Sir Edward S. Creasy* $3.50
8 MAKERS OF MODERN STRATEGY, Edited by *Edward M. Earle* $7.50
9 POWER AND POLICY: US FOREIGN POLICY AND MILITARY POWER IN THE HYDROGEN AGE, *Thomas K. Finletter* $5.00
10 THE POWER OF PERSONALITY IN WAR, *Freytag-Loringhoven* $3.00
11 JOMINI AND HIS SUMMARY OF THE ART OF WAR, *Hittle* $2.50
12 THE MILITARY STAFF, *J. D. Hittle* $3.75
13 DEFENSE, *Wilhelm von Leeb* $2.50
14 ROMMEL PAPERS, *Edited by B. H. Liddell Hart* $6.75
15 STRATEGY, THE INDIRECT APPROACH, *B. H. Liddell Hart* $5.95
16 THE REVOLUTION IN WARFARE, *B. H. Liddell Hart* $2.50
17 ECONOMICS OF NATIONAL SECURITY, *George A. Lincoln* $6.75
18 PSYCHOLOGICAL WARFARE, *Paul M. Linebarger* $6.00
19 MAHAN ON SEA POWER, *William E. Livezey* $4.50
20 THE INFLUENCE OF SEA POWER UPON HISTORY, 1660-1783, *A. T. Mahan* $5.25
21 MEN AGAINST FIRE, *S. L. A. Marshall* $2.75
22 BATTLE STUDIES, *Ardant du Picq* $2.75
23 AMERICAN STRATEGY IN THE ATOMIC AGE, *G. C. Reinhardt* $3.75
24 STRATEGY FOR THE WEST, *Sir John Slessor* $3.00
25 US MILITARY DOCTRINE: A STUDY AND APPRAISAL, *Dale O. Smith* $3.50
26 AMERICAN DEMOCRACY AND MILITARY POWER: A STUDY OF CIVIL CONTROL OF THE MILITARY POWER IN THE UNITED STATES, *Louis Smith* $6.00
27 THE REASON WHY, *Cecil Blanche Woodham-Smith* $4.00

Category II WWII

28 GREAT MISTAKES OF THE WAR, *Hanson Baldwin* $1.50
29 US NAVAL LOGISTICS IN THE SECOND WORLD WAR, *D. S. Ballatine* $4.50
30 THE SECOND WORLD WAR, *Winston Churchill.*
Vol. 1 THE GATHERING STORM
Vol. 2 THEIR FINEST HOUR
Vol. 3 THE GRAND ALLIANCE
Vol. 4 THE HINGE OF FATE
Vol. 5 CLOSING THE RING
Vol. 6 TRIUMPH AND TRAGEDY
$25.00 or $5.00 ea.
31 CRUSADE IN EUROPE, *Eisenhower* $2.98
32 THE SECOND WORLD WAR, 1939-1945, *J. F. C. Fuller* $6.00
33 THE GERMAN GENERALS TALK, *B. H. Liddell Hart* $4.00
34 ROOSEVELT AND HOPKINS, *R. E. Sherwood* $7.50
HISTORY OF US NAVAL OPERATIONS IN WWII, *Samuel Morison*
35 Vol. 1 THE BATTLE OF THE ATLANTIC $6.00
36 Vol. 2 OPERATIONS IN NORTH AFRICAN WATERS $6.00
37 Vol. 3 THE RISING SUN IN THE PACIFIC $6.00
38 Vol. 4 CORAL SEA, MIDWAY AND SUBMARINE ACTIONS $6.00
39 Vol. 5 THE STRUGGLE FOR GUADALCANAL $6.00
40 Vol. 6 BREAKING THE BISMARCK'S BARRIER $6.00
41 Vol. 7 ALEUTIANS, GILBERTS AND MARSHALLS $6.00
42 Vol. 8 NEW GUINEA AND THE MARIANAS $6.00
43 Vol. 9 SICILY, SALERNO, ANZIO $6.00

Category III US Marine Corps

44 THE US MARINES AND AMPHIBIOUS WAR, *Isely and Crowl* $7.50
45 CAVALRY OF THE SKY, *Montross* $3.00
46 US MARINE OPERATIONS IN KOREA, 1950-1953. Vol. I. THE PUSAN PERIMETER, *Montross and Carzona* $2.00
47 HISTORY OF MARINE AVIATION IN WORLD WAR II, *Robert L. Sherrod* $3.25
MARINE CORPS MONOGRAPHS:
48 THE BATTLE FOR TARAWA, *James R. Stockman* $1.75
49 BOUGAINVILLE AND THE NORTHERN SOLOMONS, *John N. Rentz* $2.25
50 THE GUADALCANAL CAMPAIGN, *John L. Zimmerman* $4.75
51 THE ASSAULT ON PELELIU, *Frank O. Hough* $2.75
52 SAIPAN, *Carl W. Hoffman* $3.75
53 THE SEIZURE OF TINIAN, *Carl W. Hoffman* $2.75
54 MARINE AVIATION IN THE PHILIPPINES, *C. W. Boggs, Jr.* $2.75
55 MARINES IN THE CENTRAL SOLOMONS, *John N. Rentz* $3.25
56 THE CAMPAIGN ON NEW BRITAIN, *Hough and Crown* $4.25
57 IWO JIMA, *Whitman S. Bartley* $4.75
58 THE RECAPTURE OF GUAM, *O. R. Lodge* $4.25
59 THE MARSHALLS, *Crown, Heinl* $3.25

Category IV
US Foreign Policy and World Politics

60 THE UNITED STATES AS A WORLD POWER: A DIPLOMATIC HISTORY, 1900-1955, *Samuel Flagg Bemis* $5.25
61 AMERICA'S RISE TO WORLD POWER, 1898 to 1954, *Foster Rhea Dulles* $3.75
62 THE UNITED STATES AND CHINA, *John K. Fairbank* $4.75
63 MOSLEMS ON THE MARCH: PEOPLE AND POLITICS IN THE WORLD OF ISLAM, *F. W. Fernau* $5.00
64 AMERICAN DIPLOMACY, 1900-1950, *George F. Kennan* $3.00
65 US FOREIGN POLICY: SHIELD OF THE REPUBLIC, *Walter Lippman* $3.00
66 DEMOCRATIC IDEALS AND REALITY, *Halford Mackinder* $3.60
67 THE MEDITERRANEAN: ITS ROLE IN AMERICA'S FOREIGN POLICY, *Welham Reitzel* $3.00
68 INTERNATIONAL RELATIONS IN THE AGE OF CONFLICT BETWEEN DEMOCRACY AND DICTATORSHIP, *Robert Strausz-Hupe and Stefan T. Possony* $6.75
69 NEW COMPASS OF THE WORLD, *Hans W. Weigert* $6.75

Category V Russia and Communism

70 HITLER'S DEFEAT IN RUSSIA, *Gen. Wladyslav Anders* $4.00
71 SOVIET MILITARY DOCTRINE, *Raymond L. Garthoff* $7.50
72 THE THREAT OF SOVIET IMPERIALISM, Edited by *C. Grove Haines* $5.00
73 A CENTURY OF CONFLICT: COMMUNIST TECHNIQUES OF WORLD REVOLUTION, *Stefan T. Possony* $7.50
74 MY THREE YEARS IN MOSCOW, *Walter Bedell Smith* $1.49
75 A HISTORY OF RUSSIA, *George Vernadsky* $4.00

Category VI Atomic Energy

76 REPORT ON THE ATOM, *Dean* $5.00
77 ATOMIC WEAPONS IN LAND COMBAT, *Reinhardt and Kintner* $3.75
78 ATOMIC ENERGY FOR MILITARY PURPOSES, *Henry Smyth* $2.50

THE GAZETTE BOOKSHOP • BOX 1844 • QUANTICO, VA.

PROFESSIONAL BOOK LIST ORDER FORM

List Price of Books Ordered ..... $.....
Less 10%* *(Members Only)* ..... $.....
☐ Payment Enclosed ☐ Bill Me Amount $.....

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
76	77	78												

SEND TO:

(Please print) NAME & RANK (PRINT)

ADDRESS

*Discount does not apply on shipments to foreign addresses.

70% OF THE WORLD IS A POTENTIAL BASE FOR YOUR NEW NAVY

Underwater Aircraft Carrier...

Long-range striking punch of Regulus guided missiles strengthens your new Navy's powerful underwater fleet

Bold, advanced concepts—atomic power and guided missiles like Vought's pin-point accurate Regulus—help make Your New Navy the most modern force of its kind in the world.

Submarines capable of cruising around the world without surfacing or refueling now can serve also as *aircraft carriers*, with potent, dependable guided missiles giving wings to their deadly striking power.

Regulus thus brings Air Power to the Underwater Fleet—another example of how Vought engineering ability results in weapons that help strengthen the U. S. Navy in its vital mission, control of the seas that cover 70 per cent of the world.

SCIENTISTS AND ENGINEERS: There is a challenging place for you on Vought's creative technical team now. For details write: Engineering Personnel, P. O. Box 5907, Dallas, Texas.

CHANCE VOUGHT AIRCRAFT
INCORPORATED · DALLAS, TEXAS

DESIGNER AND BUILDER OF HIGH PERFORMANCE MILITARY AIRCRAFT SINCE 1917